JVC

SERVICE MANUAL

MODEL JR-S401

DC INTEGRATED RECEIVER

No. 2452
MAR. 1978

Contens

Page

1. Specifications 2
2. Level Diagram 2
3. Removal Procedures
   - 3-(1) Top Cover and Bottom Plates 3
   - 3-(2) Front Panel and Window Screen 4
   - 3-(3) Pushbuttons 5
   - 3-(4) TAP-273B Power Amp. P.C. Board Ass'y 5
4. Main Parts Location 6
5. Exploded Views and Part Numbers
   - 5-(1) Front Panel 7
   - 5-(2) Rear Panel 8
   - 5-(3) Replacement of the Power Transistor 8
6. Dial Stringing Procedures 9
7. FM/AM Tuner Alignment Procedures
   - 7-(1) FM Section 10
   - 7-(2) AM Section 12
8. Power Amplifier Adjustment Procedures
   - 8-(1) Center Voltage 13
   - 8-(2) Idling Current 13
   - 8-(3) Power Meter 13
9. Printed Circuit Board Ass'y and Parts List
   - 9-(1) TFC-23B FM/AM Tuners and Equalizer Amp. P.C. Board Ass'y 14
   - 9-(2) TXX-114A Select Switch P.C. Board Ass'y 22
   - 9-(3) TXX-115B Speaker Terminal P.C. Board Ass'y 23
   - 9-(4) TXX-116B Pin-jack P.C. Board Ass'y 24
   - 9-(5) TXX-117E (or F and TXX-130E (or F) AC Block P.C. Board Ass'y 25
   - 9-(6) TPS-118C (or D) DC Power Supply P.C. Board Ass'y 26
   - 9-(7) TPS-126E, F, G (or H) Fuse P.C. Board Ass'y 28
   - 9-(8) TAP-273B Power Amp. P.C. Board Ass'y 29
   - 9-(9) TAC-488B S.E.A. (Sound Effect Amp.) P.C. Board Ass'y 34
10. Packing Materials and Part Numbers 37
11. Accessories List 37
12. JR-S401 Schematic Diagram 38
13. Parts List with Specified Numbers for Designated Areas 40

Warning!
When replacing the parts marked with ⚠ , be sure to use the designated parts to ensure safety.

1. Specifications

AMPLIFIER SECTION

Output Power	**: 85 watts per channel, min. RMS, both channels driven, into 8 ohms from 20 Hz to 20 kHz, with no more than 0.03 % total harmonic distortion**
	90 watts per channel into 8 ohms (1 kHz, THD 0.03 %)
	110 watts per channel into 4 ohms (1 kHz, THD 0.03 %)
THD at Half Rated Power, 1 kHz, 8Ω	: 0.008 %
Intermodulation Distortion	: 0.01 % at rated output
Damping Factor	: 70 at 8 ohms/1 kHz
Load Impedance	: 4 – 16 ohms
Input Sensitivity (Impedance)	: PHONO: 2.5 mV (47 k ohms) AUX: 210 mV (50 k ohms) TAPE PLAY (pin/DIN): 210 mV (50 k ohms)
Signal-to-Noise Ratio (IHF Short-Circuit A Network)	: PHONO: 75 dB AUX: 95 dB TAPE: 95 dB
Recording Output	: Pin: 210 mV DIN: 30 mV (80 k ohms)
Frequency Response	: 5 Hz – 40 kHz +0.0 dB, -1.0 dB
Phono Equalizer Deviation	: ± 0.2 dB from 20 Hz to 20 kHz
Phono Overload	: 200 mV (RMS) (THD 0.03 %)
S.E.A. Center Frequencies	: 40, 250, 1 k, 5 k, 15 kHz
S.E.A. Control Range	: ± 12 dB

FM TUNER SECTION

Usable Sensitivity*	: 10.3 dBf (0.9 μV/75 Ω, 1.8 μV/300 Ω)
50 dB Quieting Sensitivity*	: MONO: 14.8 dBf (3.0 μV/300 Ω) STEREO: 37.2 dBf (39.7 μV/300 Ω)
Stereo Separation (at REC OUT)	: 52 dB (1 kHz) 45 dB (50 Hz – 10 kHz)
Distortion	: 100 Hz: 0.08 % (Mono), 0.1 % (Stereo) 1 kHz: 0.08 % (Mono), 0.1 % (Stereo) 6 kHz: 0.15 % (Mono), 0.2 % (Stereo)
Signal-to-Noise Ratio (IHF weighted)	: MONO: 78 dB STEREO: 70 dB
Alternate Channel Selectivity	: 80 dB
Capture Ratio	: 1.0 dB (at 10 mV input)
Image Response Ratio	: 80 dB at 98 MHz
IF Response Ratio	: 110 dB at 98 MHz
AM Suppression	: 65 dB
Frequency Response	: 20 Hz – 15 kHz +0.3 dB, -0.8 dB

AM TUNER SECTION

Sensitivity	: 290 μV/m (Bar Antenna) 30 μV (Ex. Antenna)
Selectivity ± 10 kHz	: 50 dB
Signal-to-Noise Ratio	: 55 dB
DIMENSIONS (HxWxD)	: 166 mm x 560 mm x 429 mm (6-9/16" x 22-1/16" x 16-15/16")
WEIGHT	: 16.1 kg (35.4 lbs.)

*Figures in ( ) are based upon '58 IHF standard.

Design and specifications subject to change without notice.

POWER SPECIFICATIONS

	Line Voltage & Frequency	Power Consumption
U.S.A.	AC 120 V, 60 Hz	390 watts 480 VA (By UL Standard)
CANADA	AC 120 V, 60 Hz	390 watts 480 VA (By CSA Standard)
CONTINENTAL EUROPE	AC 110/120/220/240 V∿ selectable, 50 Hz	680 watts (By IEC Standard)
U.K., AUSTRALIA	AC 110/120/220/240 V∿ selectable, 50 Hz	680 watts (By BS and SAA Standards)
OTHER AREAS	AC 110/120/220/240 V selectable, 50/60 Hz	680 watts

2. Level Diagram

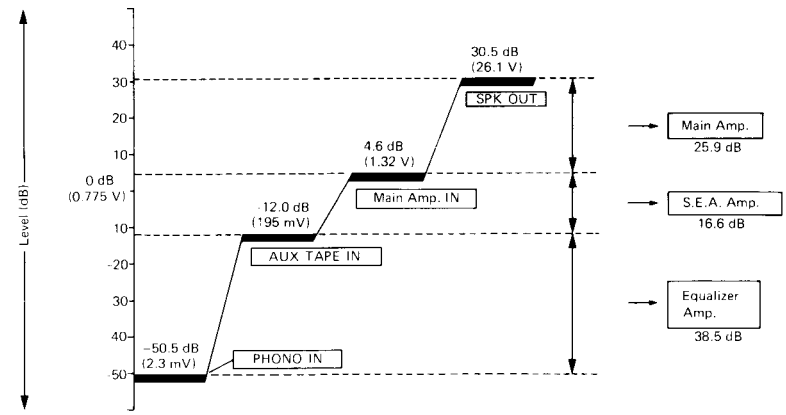


Fig. 1

3. Removal Procedures

3-(1) Top Cover and Bottom Plates

Procedure

1. Remove 4 screws (Item No. 5) and also 4 screws (Item No. 6) through the both sides of the cover and 3 screws (Item No. 7) from the back of the top cover. See Fig. 2.
2. Remove the top cover.

Note: When removing the top cover (Item No. 1) only, remove 7 screws (Item No. 4 and 7).

3. Remove 9 screws (Item No. 11) and remove 2 bottom plates (Item No. 12 and 13) from the chassis.

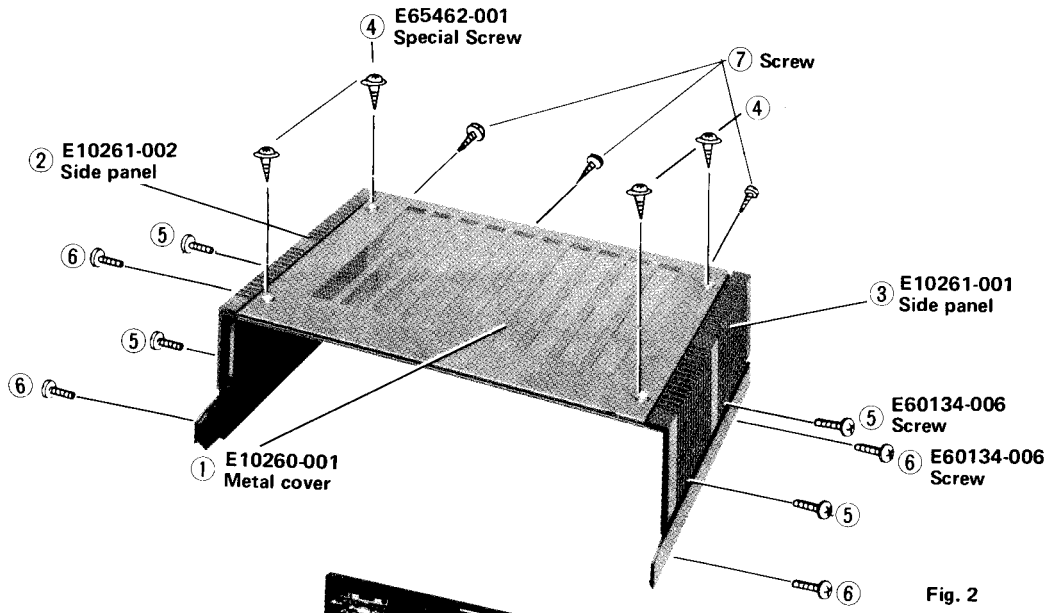


Fig. 2

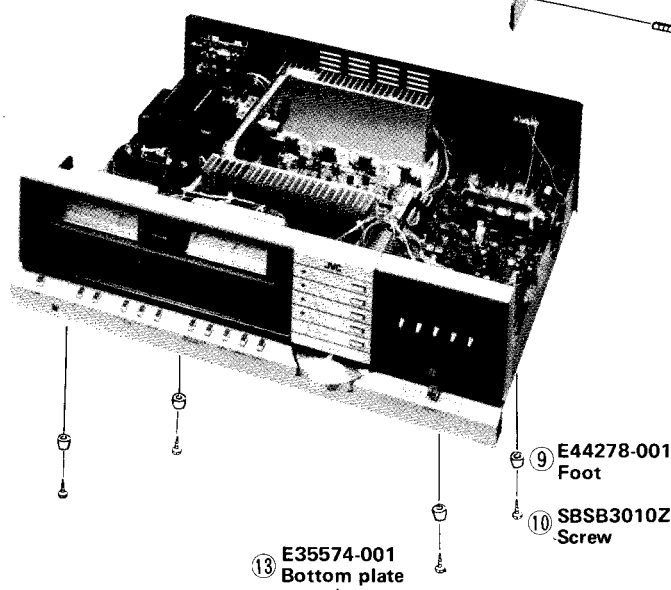


Fig. 3

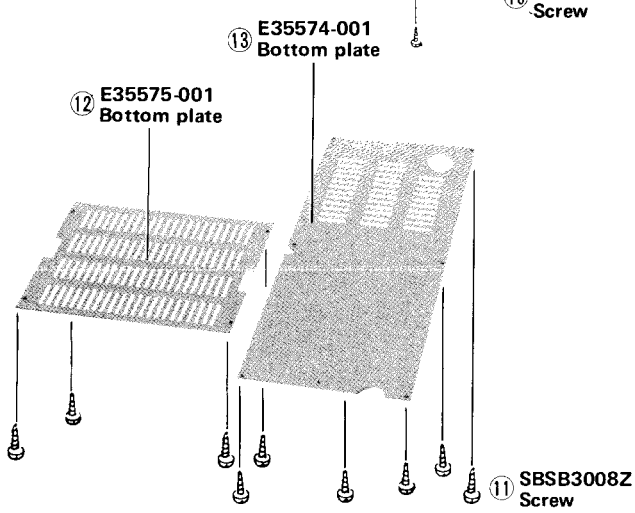


Fig. 4

3-(2) Front Panel and Window Screen

Procedure (Front Panel)

1. Remove 4 screws (Item No. 14) from the both sides of chassis and remove 3 screws (Item No. 15) from the bottom. See Figs. 5 and 6.
2. Remove 2 screws (Item No. 16) from the "L" typed brackets (Item No. 17 and 18).

Procedure (Window Screen)

1. Remove 3 screws (Item No. 19) and a holder (Item No. 20).
2. Remove the window screen (Item No. 21).

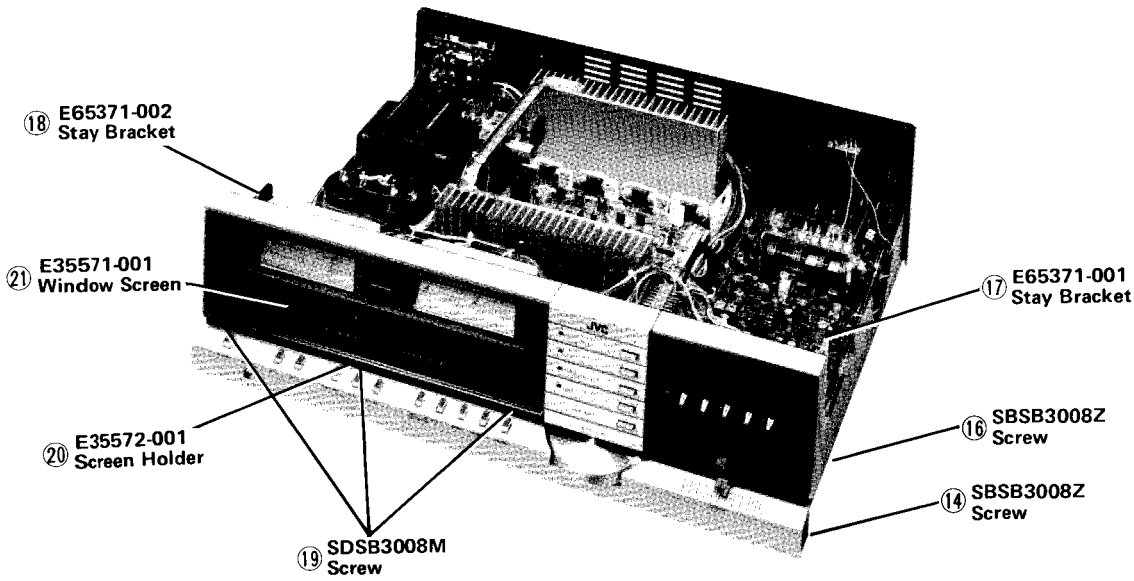


Fig. 5

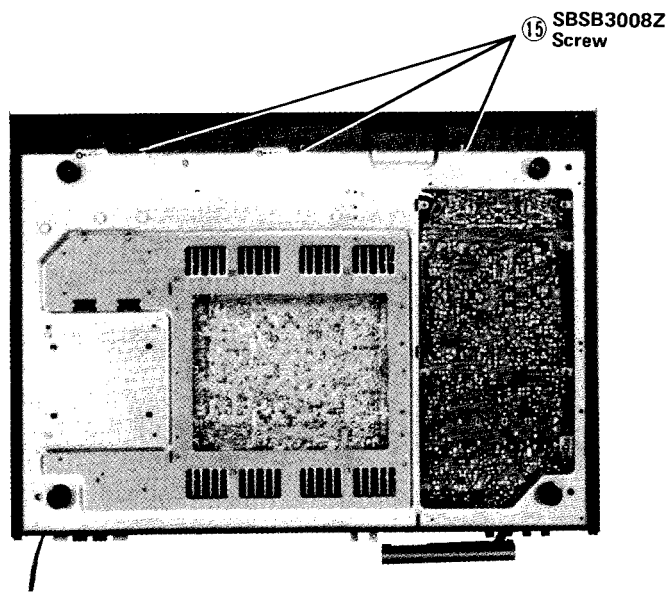


Fig. 6

3-(3) Pushbuttons

Procedure (Functions)

1. Remove "E" typed ring (Item No. 28) and a shaft (Item No. 27) from the button holder (Item No. 26) carefully.
2. Pushbuttons will be removed. Refer to Fig. 7A.

Procedure (Source)

1. Remove a nut (Item No. 32) and a source panel (Item No. 33) from the front panel.
2. Remove the escutcheons (Item No. 29).
3. Squeeze the both ends of escutcheon then, pull out the pushbuttons (Item No. 30) slightly. Refer to Fig. 7B.

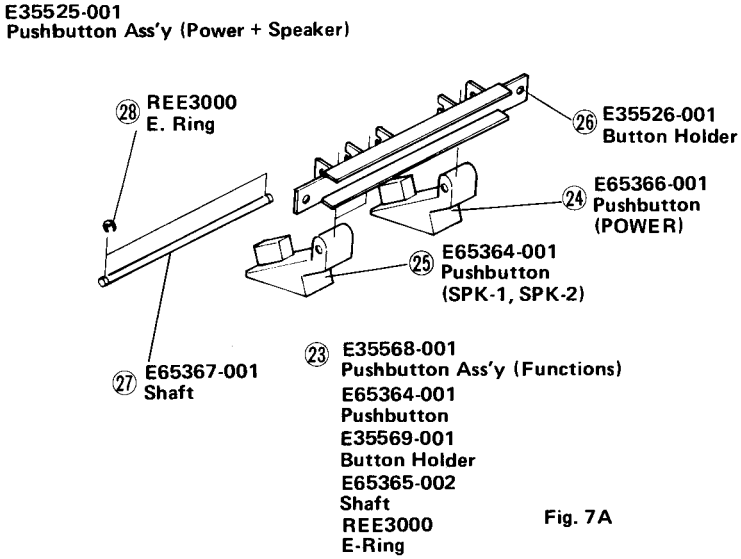


Fig. 7A

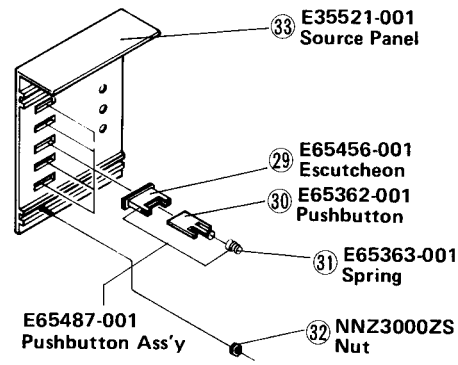


Fig. 7B

3-(4) TAP-273B Power Amp. P.C. Board Ass'y

Procedure

1. Remove 4 screws (Item No. 34) from the bottom chasis.
2. Remove 4 screws (Item No. 35) from the both sides of two heat sinks.
3. Carefully remove TAP-273B with its heat sinks in the manner shown in Fig. 8

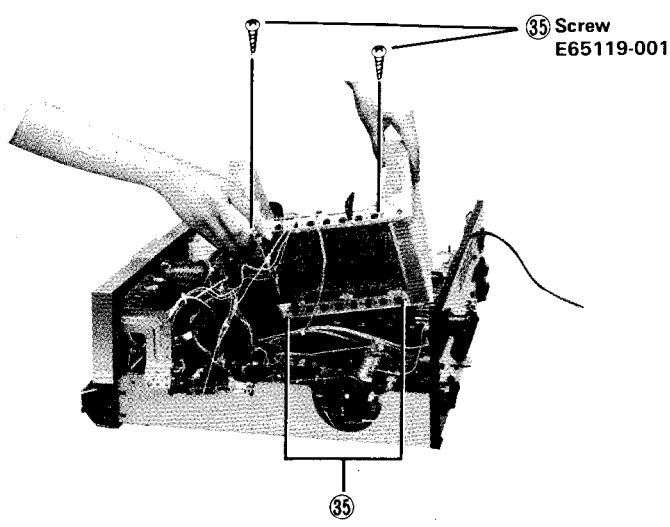


Fig. 8

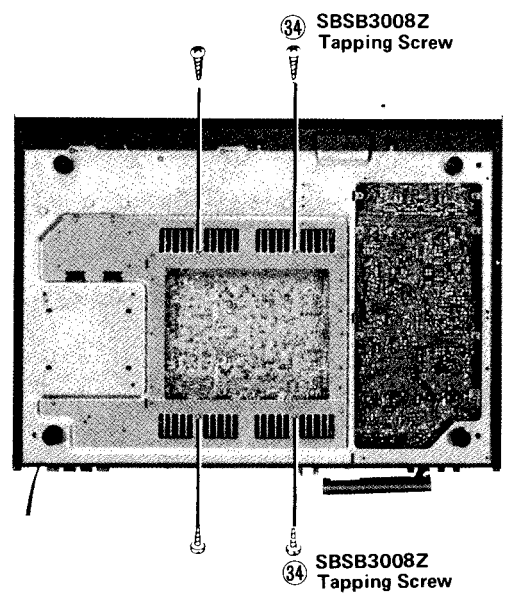


Fig. 9

4. Main Parts Location

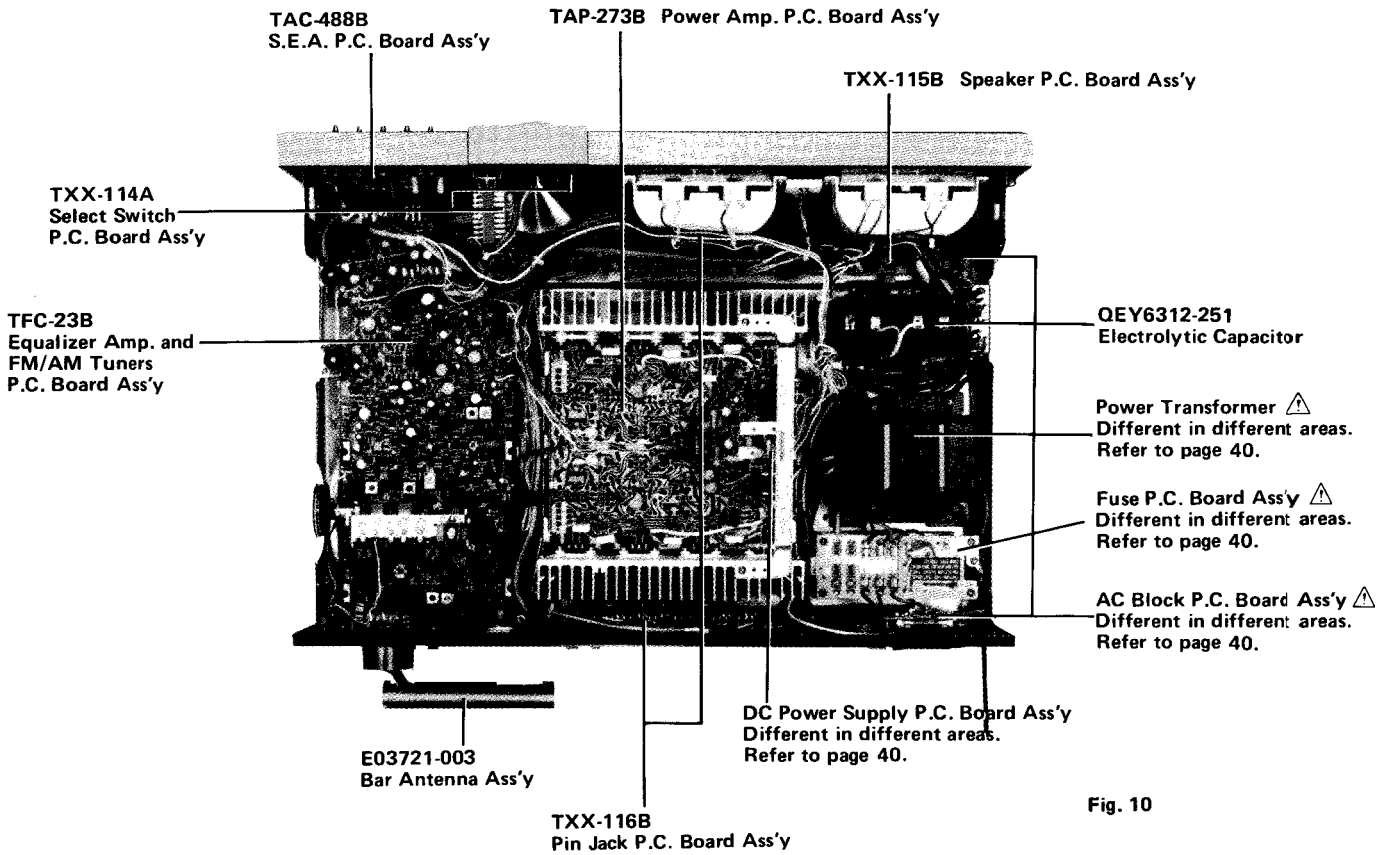


Fig. 10

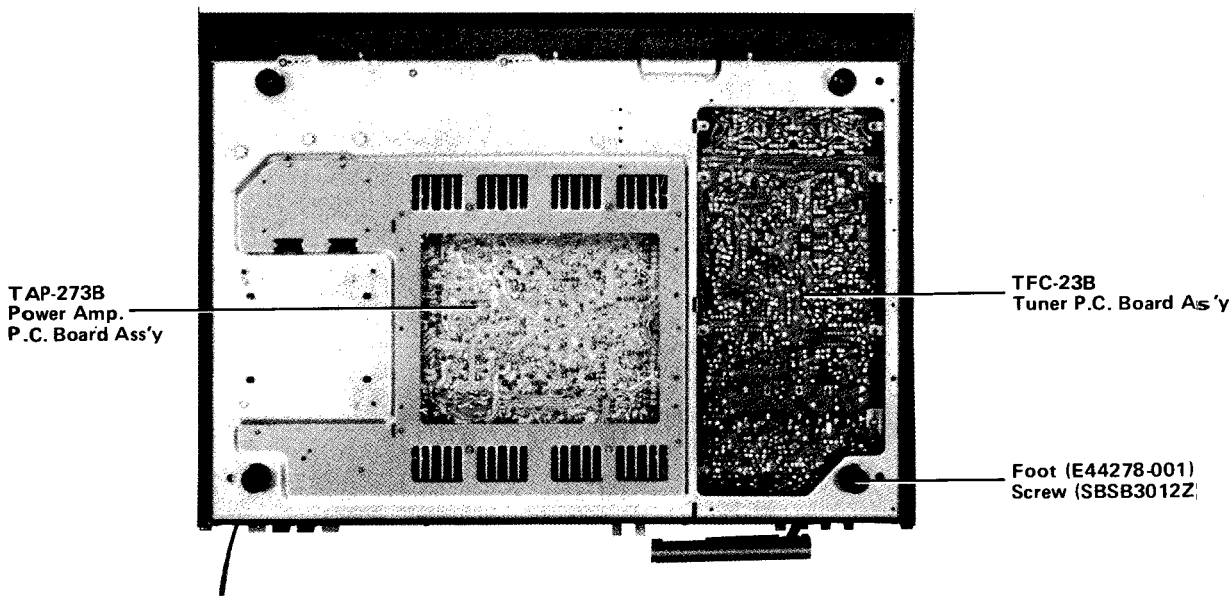


Fig. 11

NOTE: ⚠ SAFETY PARTS

5. Exploded Views and Part Numbers

5-(1) Front Panel

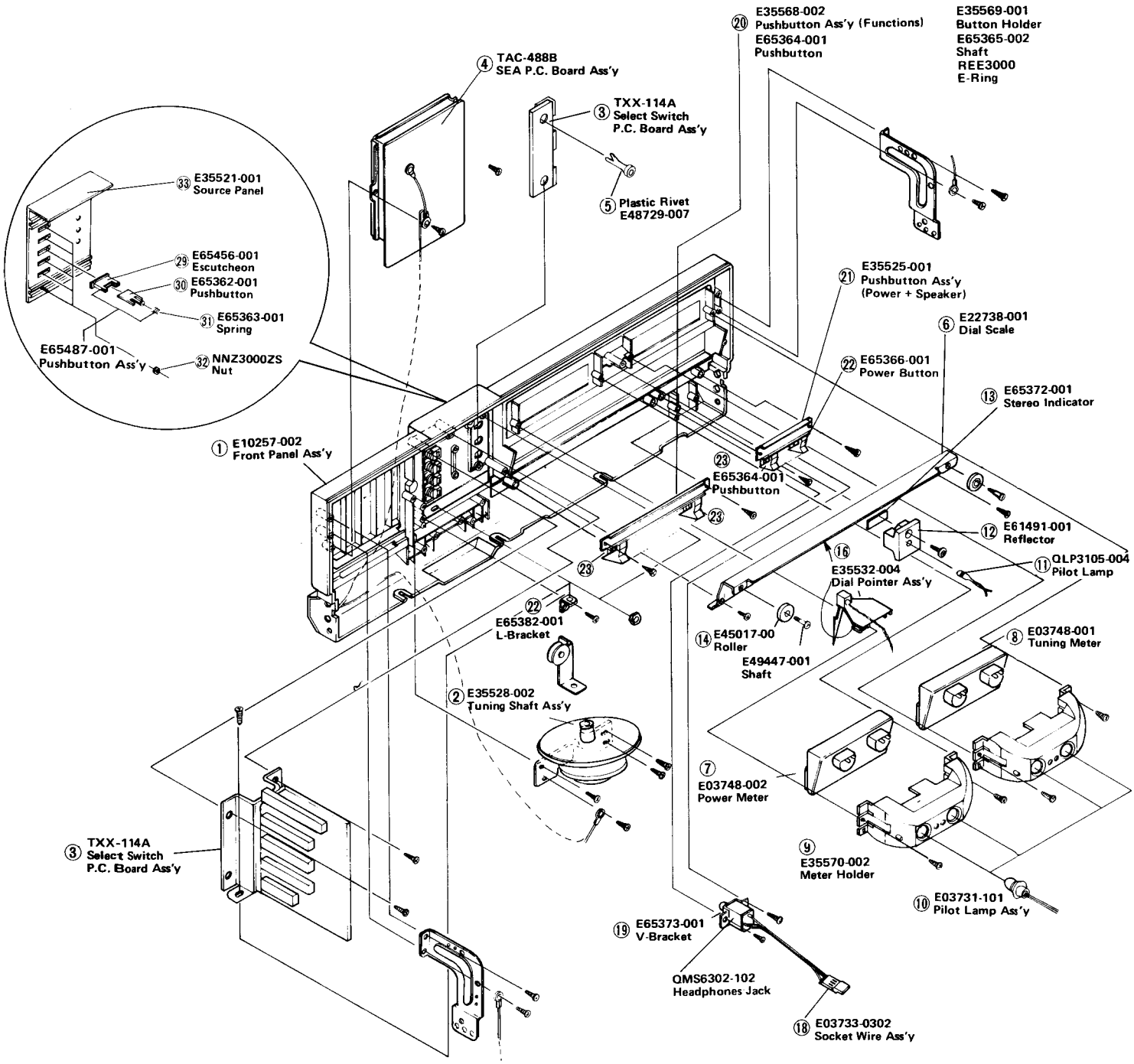


Fig. 12

5-(2) Rear Panel

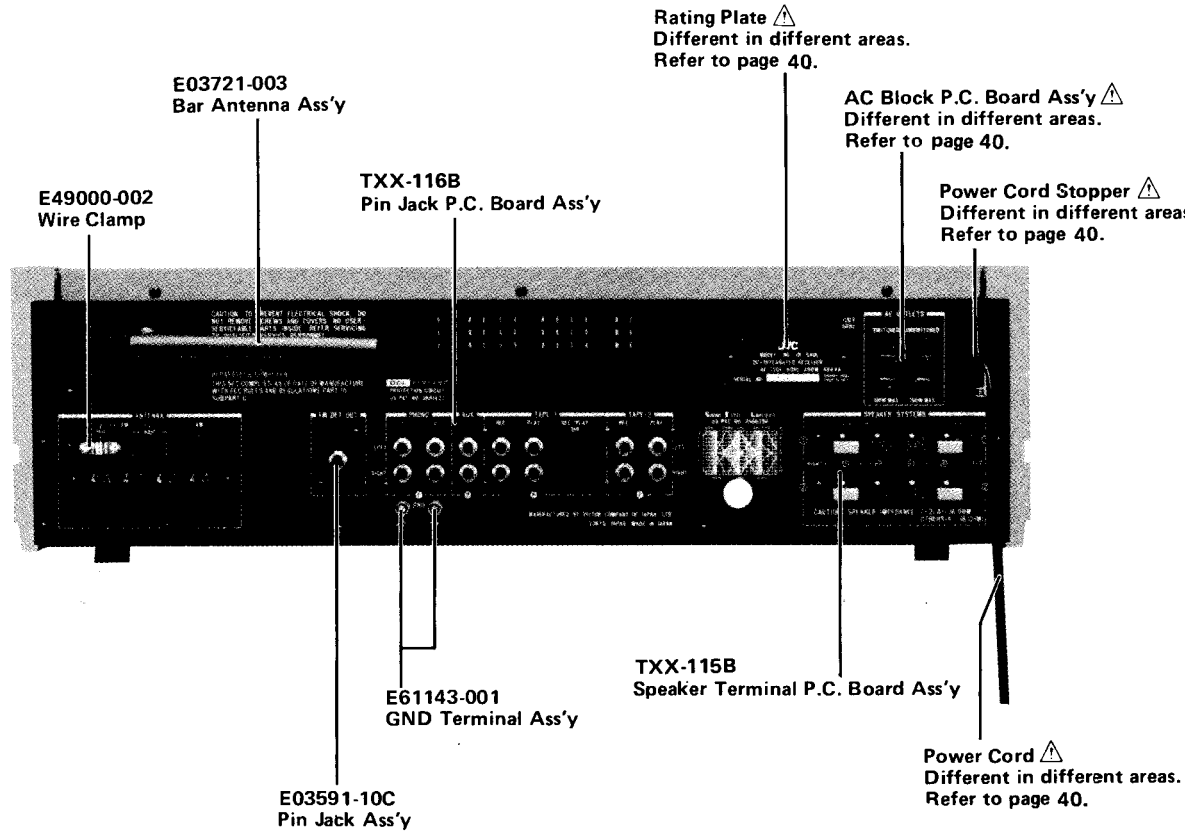


Fig. 13

NOTE: ⚠ SAFETY PARTS

5-(3) Replace the power Transistor

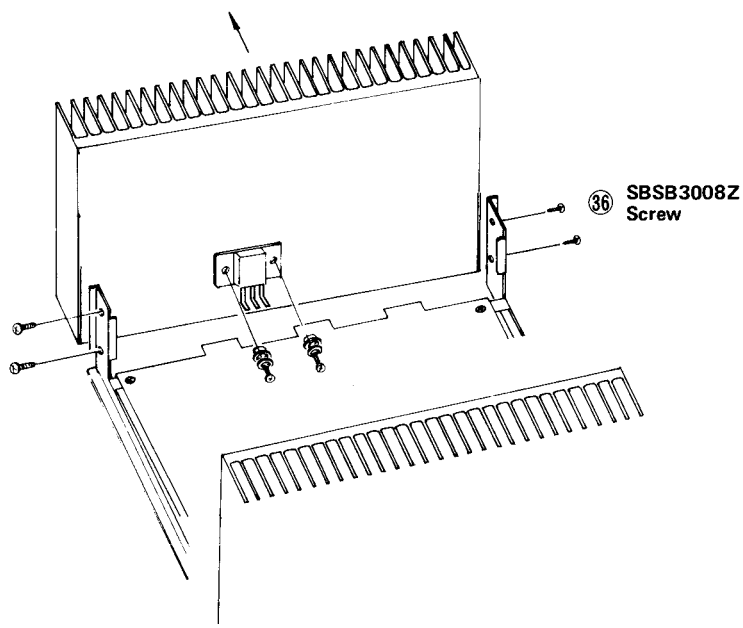


Fig. 14

5-(3)-1 Remove the 4 screws (Item No. 36) from the heat sink and desolder the power transistor from the P.C. board.
5-(3)-2 Remove the heat sink from the P.C. board and replace the power transistor.

6. Dial Stringing Procedures

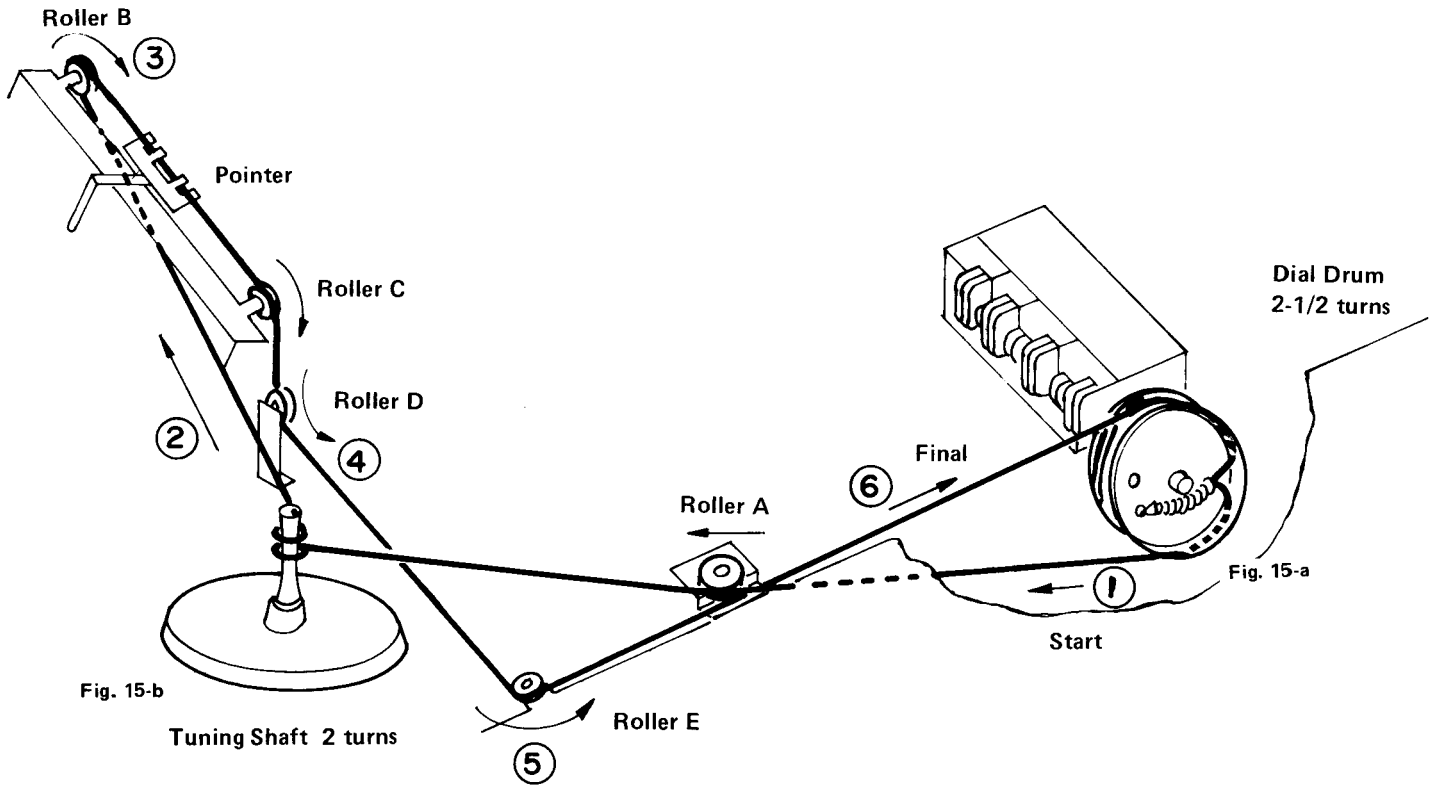


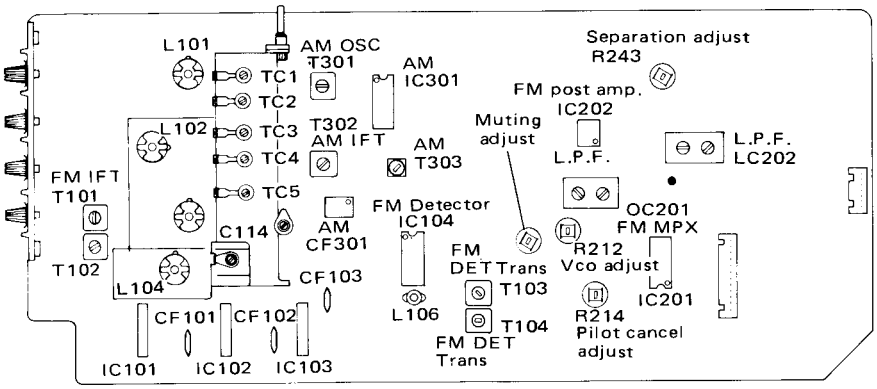
Fig. 15

Procedure

1. Remove the dial pointer and the old cord.
2. Tie end of new dial cord to one end of dial spring. Connect other end of dial spring of bottom left eye inside dial drum. See Fig. 15-a.
3. Rotate tuning capacitor dial drum to its maximum clockwise.
4. Run the dial cord through the slot in the rim of the dial drum.
5. Guide the dial cord to tuning shaft through roller "A".
6. Pull the dial cord taut and wrap 2 turns counterclockwise. See Fig. 15-b.
7. Guide the dial cord around roller "B", "C" and "D". Keep the dial cord taut during this procedure.
8. Guide the dial cord over the dial drum and wind 2-1/2 turns counterclockwise. See Fig. 15.
9. Guide the dial cord to the dial drum through roller "E".
10. Turn the tuning shaft to rotate the dial drum fully counterclockwise and fully clockwise to distribute the tensioning along the dial cord.
11. Place the dial cord over and under the tabs on the rear of the dial pointer and place the dial pointer on the top of the dial panel rail. See Fig. 15.
12. Turn the tuning shaft clockwise. Slide the dial pointer to ZERO (0) calibration marker on the logging scale while holding the tuning shaft fully clockwise. Cement the dial pointer to dial cord to prevent slippage. Allow cement to dry thoroughly.
13. Replace the top (Metal) cover.

7. FM/AM Tuner Alignment Procedures

Alignment Locations



TFC-23A & B FM/AM EQUALIZER AMP. P.C. BOARD ASS'y

Fig. 16

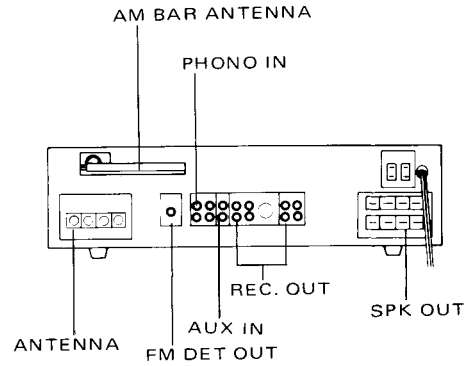


Fig. 17

7-(1) FM Section

Discriminator, Center Meter & Distortion

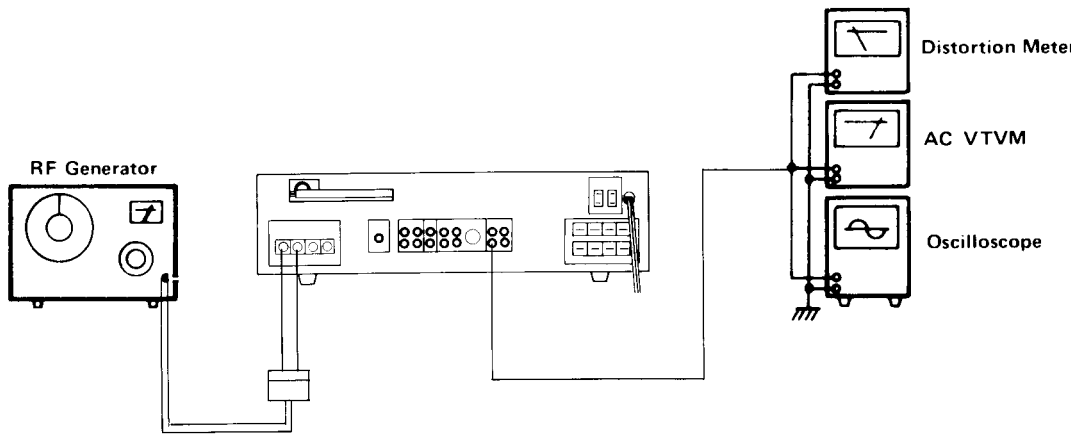


Fig. 18

1. Connect an RF generator, 400 Hz modulation and 75 kHz deviation, to the antenna terminals on the rear panel through a dummy antenna.
2. Connect an oscilloscope, distortion meter and VTVM to the Rec. Out on the rear panel. See Fig.18.
3. Tune to a frequency where there is no broadcasting.
4. Adjust the core of T103 so that the center meter indicates "0" (zero).
5. Set the RF generator to 98 MHz.
6. Set the dial pointer to 98 MHz.
7. Adjust the core of T104 so that the distortion is minimized at a value less than 0.2 %.

Tracking and Sensitivity

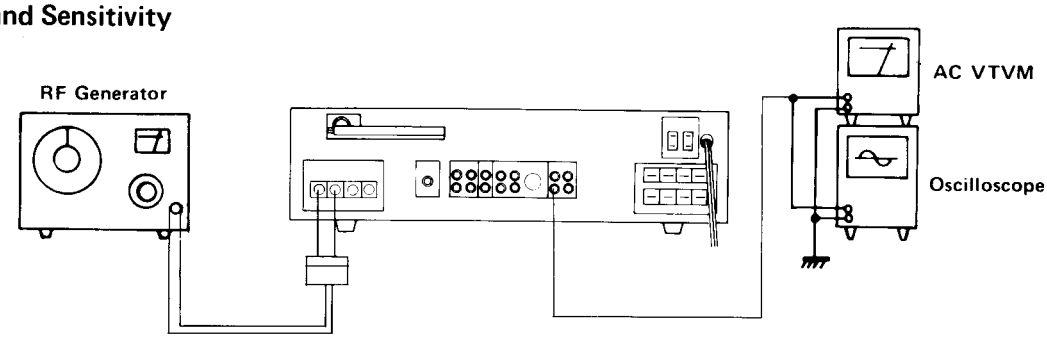


Fig. 19

Low Frequency

1. Connect an RF generator to the antenna terminals on the rear panel through a dummy antenna.
2. Set the RF generator to 90 MHz, a modulation of 400 Hz and a deviation of 75 kHz, to provide an input of 2 μV.
3. Connect a VTVM and an oscilloscope to the Rec. Out on the rear panel.
4. Set the dial pointer to 90 MHz.
5. Adjust five coils L104, L103, L102, L101 and T101, T102.

High Frequency

6. Set the RF generator to 106 MHz, a modulation of 400 Hz and a deviation of 75 kHz, to provide an input of 2 μV.
7. Set the dial pointer to 106 MHz.
8. Set the FM trimmers C114, TC5, TC3 and TC1 in the tuning gang to maximize the output.
9. Repeat these high and low frequency adjustments alternately until maximum sensitivity is obtained.

Note: After completion of this procedure, make sure that the center meter indicates proper position. Repeat steps 4 through 7 of the center meter adjustment, if it is not indicated properly.

Multiplex & Separation

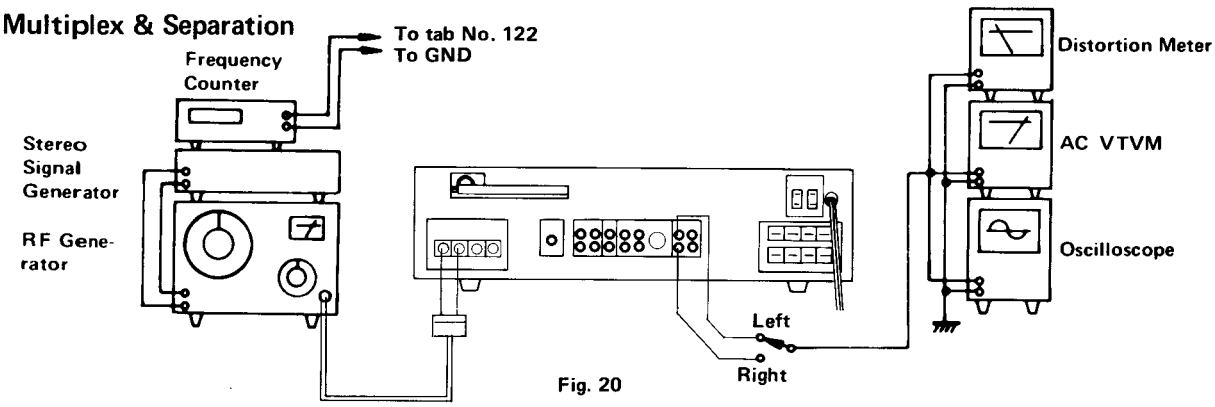


Fig. 20

Multiplex

1. Set the stereo signal generator as follows: Modulation frequency 400 Hz, Deviation pilot 7.5 kHz, Main and Sub. 67.5 kHz. Connect its output to an RF generator.
2. Connect an RF generator to the antenna terminals through a dummy antenna.
3. Connect a VTVM, an oscilloscope and a distortion meter to the Rec. Out on the rear panel.
4. Set the RF generator to 98 MHz and an output of 1 mV.
5. Set the dial pointer to 98 MHz.
6. Connect a frequency counter to Tab No. 122.
7. Switch the pilot signal of stereo modulator off.
8. Adjust R212 so that the frequency counter indicates 76 kHz (±0.01 kHz).

Stereo Separation

9. Switch the selector of the stereo modulator to left channel modulation.
10. Adjust R243 so that the output of the right channel is minimized.
11. Switch the selector of the modulator to right channel modulation.
12. Adjust R243 so that the output of the left channel is minimized.
13. Set R243 to average, if the separations of right and left channels are different.

19 kHz PILOT Carrier Supression Adjustment

14. Adjust R214 so that PILOT carrier is minimized.

Note: Keep the muting pushbutton out during this adjustment procedure of stereo separation.

Muting Level

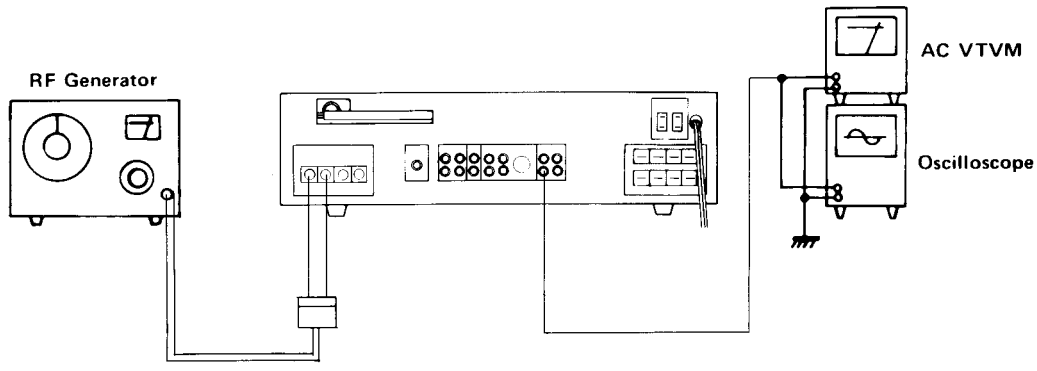


Fig. 21

1. Connect a VTVM and an oscilloscope to the Rec. Out on the rear panel.
2. Set the RF generator to 98 MHz, a modulation of 400 Hz and a deviation of 75 kHz, to provide an input of 10 μV.
3. Turn R131 clockwise and remember the point at which the muting ceases operating.
4. Turn R131 counterclockwise slightly so that the output level drops by 1 dB.
5. Attenuate the output of the RF generator to 2 dB from 10 μV of step 2 and check that the muting is till operating.

7-(2) AM Section

Tracking and Sensitivity

Low Frequency

1. Connect an RF generator to the antenna terminals on the rear panel, and set this to 650 kHz with 30 % modulation at 400 Hz.
2. Connect an AC VTVM and an oscilloscope to Rec. Out on the rear panel.
3. Set the dial pointer to 650 kHz.
4. Adjust the osc. transformer T301 and the ferrite bar antenna to maximize the output signal.

High Frequency

5. Set the RF generator to 1 400 kHz with 30 % modulation at 400 Hz.
6. Set the dial pointer to 1 400 kHz.
7. Adjust the trimmers TC4 and TC2 in the AM tuning gang so that the output signal is maximized.
8. Repeat these high and low frequency adjustments alternately until maximum sensitivity is obtained.

8. Power Amplifier Adjustment Procedures

8-(1) Center Voltage

( ): For RIGHT Channel Adjustment

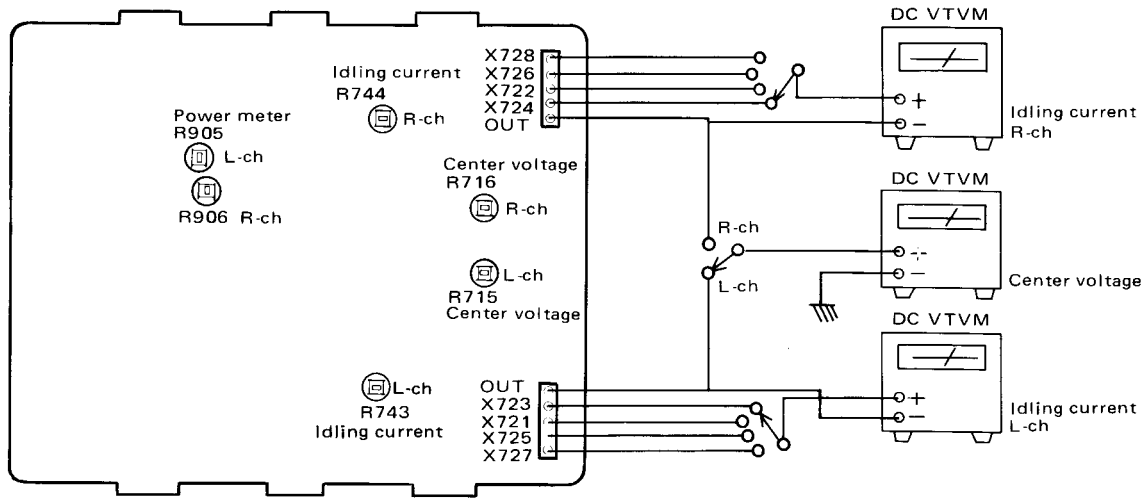


Fig. 22

Procedure

Precaution: Allow set to warm up at least 5 minutes before connecting DC VTVM.

1. Set R715 (R716) located on TAP-273B to center position before pressing the power switch on.
2. Connect a DC VTVM to test points "OUT".
3. Adjust R715 (R716) for DC VTVM reading of 0 mV.

8-(2) Idling Current

Procedure

Precaution: Allow set to warm up at least 5 minutes before connection DC VTVM.

1. Turn R743 and R744 fully counterclockwise before pressing the power switch on. Refer to Fig. 22.
2. Connect a DC VTVM to test points "X723, 721, 725, 727" (X724, 722, 726, 728). Refer to Fig. 22.
3. Adjust R743 (R744) for DC VTVM reading of 10 mV.

Note: The heat sinks must be cool and the volume control to minimum during these adjustment procedures.

8-(3) Power Meter

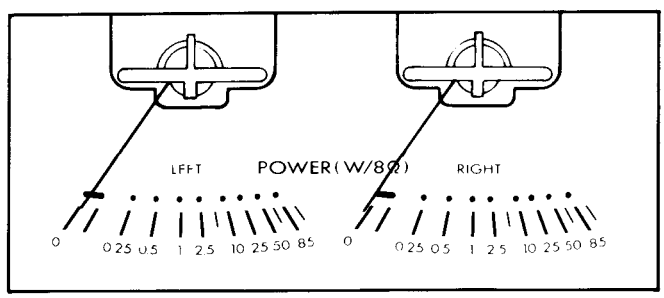


Fig. 23

1. Turn R905 and R906 located on TAP-273B fully counterclockwise.
2. Connect an audio generator to left channel (right channel) AUX pin-jack on the rear panel.
3. Set the audio generator to 1 kHz and sine wave.
4. Connect a AC VTVM to left channel (right channel) speaker terminals on the rear panel.
5. Adjust the output of audio generator for AC VTVM reading of 26.1 V.
6. Adjust R905 (R906) so that the power meter indicates 85 W.

9. Printed Circuit Board Ass'y and Parts List

9-(1) TFC-23B FM/AM Tuners and Equalizer Amp. P.C. Board Ass'y

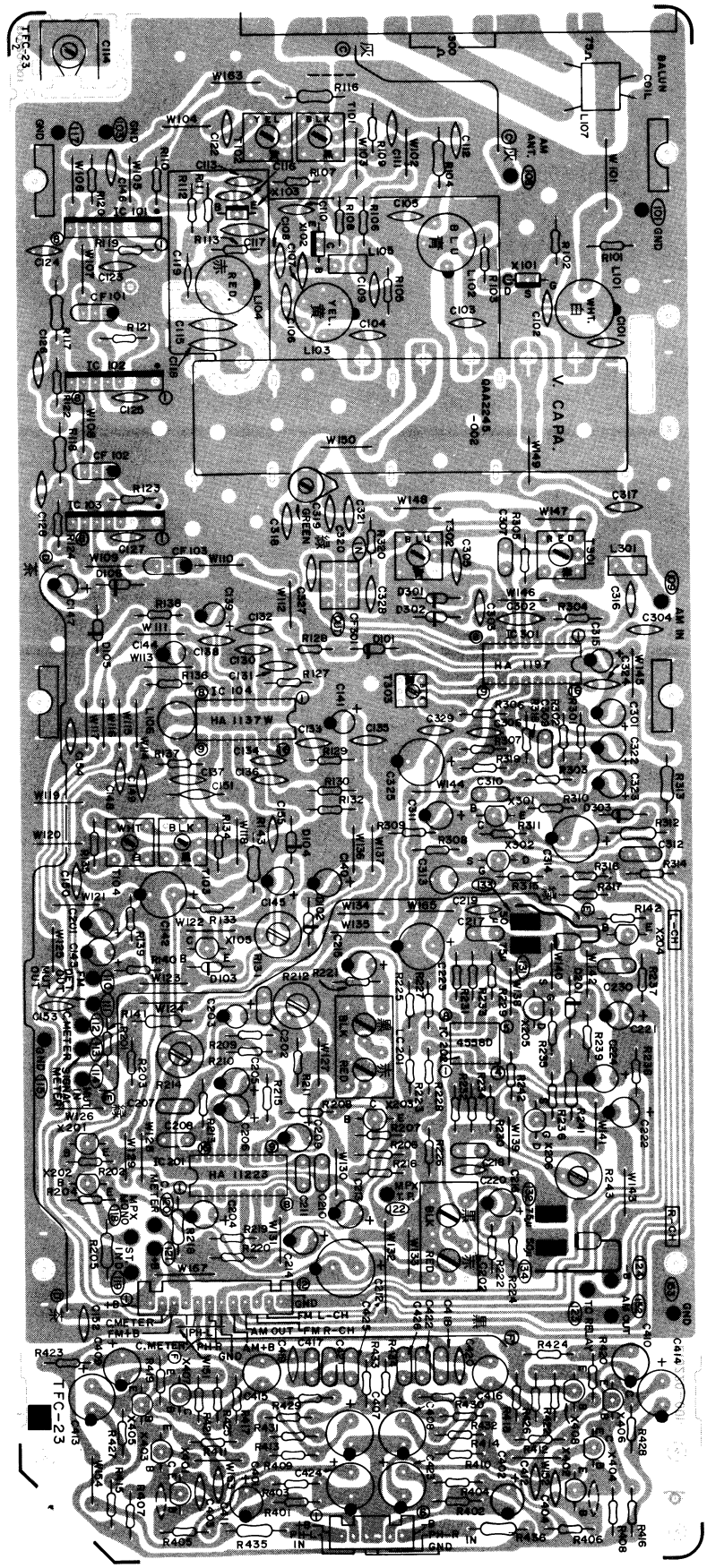


Fig. 24

Transistors

Item No.	Part Number	Rating		Description	Maker
		Pc	fT		
X101	2SK55D	0.25 W	100 MHz	F.E.T.	Hitachi
X102	2SC535(C)	0.1 W	700 MHz	Silicon	
X103	2SC1342(B)	"	250 MHz	"	Hitachi
X105	2SC458(C)	0.2 W	230 MHz	"	"
X201	2SC458(C)	"	"	"	"
X202	2SC458(C)	"	"	"	"
X203	2SC458(C)	"	"	"	"
X204	2SA872AV(E)	0.3 W	120 MHz	"	"
X205	2SK68(N, M)	0.25 W	146 MHz	F.E.T.	NEC
X206	2SK68(N, M)	"	"	"	"
X301	2SC458(C)	0.2 W	230 MHz	Silicon	Hitachi
X302	2SK68(N, M)	0.25 W	146 MHz	F.E.T.	NEC
X401	2SA872AV(E)	0.3 W	120 MHz	Silicon	Hitachi
X402	2SA872AV(E)	"	"	"	"
X403	2SC1775AV(F)	"	200 MHz	"	"
X404	2SC1775AV(F)	"	"	"	"
X405	2SC1775AV(F)	"	"	"	"
X406	2SC1775AV(F)	"	"	"	"
X407	2SC1775AV(F)	"	"	"	"
X408	2SC1775AV(F)	"	"	"	"

Integrated Circuits

Item No.	Part Number	Rating		Description	Maker
		Pc			
IC101	HA1211	0.2 W		I.C.	Hitachi
IC102	HA1211	"		"	"
IC103	HA1211	"		"	"
IC104	HA1137W	0.55 W		"	"
IC201	HA11223	0.5 W		"	"
IC202	NJM4558D	"		"	JRC
IC301	HA1197	0.45 W		"	Hitachi

Diodes

Item No.	Part Number	Rating		Description	Maker
D101	1S2473			Silicon	Toyo Dengu
D102	1S2473			"	"
D103	1S2473			"	"
D104	1S2473			"	"
D105	1S2473			"	"
D106	1S2473			"	"
D107	1S2473			"	"
D201	XZ-132			"	JRC
D301	1S2473			"	Toyo Dengu
D302	1S2473			"	"
D303	1S2473			"	"

Coils & Transformers

Item No.	Part Number	Rating		Description
L101	E03477-031			RF Coil
L102	E03477-036			"
L103	E03477-033			"
L104	E03477-034			"
L105	E03522-1R5KY			Choke Coil
L106	E03746-220J			"
L107	E03177-001			Balun Coil
L301	E03522-2R2KY			Choke Coil
T101	E03078-41			FM IFT
T102	E03078-42			"
T103	E03078-43			FM DET. Coil
T104	E03078-44			"
T301	E03079-29			AM OSC Coil
T302	E03613-009			AM IFT
T303	E03062-36			

Capacitors

Item No.	Part Number	Rating		Description
C101	QCS31HJ-150	15 pF	50 V	Ceramic
C102	QCS31HJ-330	33 pF	"	"
C103	QCS31HJ-180	18 pF	"	"
C104	QCS31HJ-180	"	"	"
C105	QCF31HP-103U	0.01 μF	"	"
C106	QCT25CH-4R0	4 pF	"	"
C107	QCT25CH-4R0	"	"	"
C108	QCT25CH-2R0	2 pF	"	"
C109	QCS31HJ-151	150 pF	"	"
C110	QCF31HP-103U	0.01 μF	"	"
C111	QCF31HP-103U	"	"	"
C112	QCF31HP-103U	"	"	"
C113	QCF31HP-103U	"	"	"
C114	QAT3001-014			Trimmer
C115	QCT25PH-220	22 pF		Ceramic
C116	QCT25CH-220	"		"
C117	QCT25CH-100	10 pF		"
C119	QCT05CH-7R0	7 pF		"
C122	QCF31HP-223	0.022 μF	50 V	"
C123	QCF31HP-223	"	"	"
C124	QCF31HP-223	"	"	"
C125	QCF31HP-223	"	"	"
C126	QCF31HP-223	"	"	"
C127	QCF31HP-223	"	"	"
C128	QCF31HP-223	"	"	"
C130	QCC31EM-473	0.047 μF	25 V	"
C131	QCF31HP-223	0.022 μF	50 V	"
C132	QCC31EM-473	0.047 μF	25 V	"
C133	QCF31HP-223	0.022 μF	50 V	"
C134	QCF31HP-223	"	"	"
C135	QCF31HP-223	"	"	"
C136	QCF31HP-223	"	"	"
C137	QCF31HP-223	"	"	"
C138	QCS31HJ-330	33 pF	"	"
C139	QEW51EA-475	4.7 μF	25 V	Electrolytic

Capacitors

Item No.	Part Number	Rating		Description
C140	QEW51AA-107	100 μF	10 V	Electrolytic
C141	QEW51HA-474	0.47 μF	50 V	"
C142	QEW51CA-107	100 μF	16 V	"
C143	QEW51CA-106	10 μF	"	"
C144	QEW51HA-105	1 μF	50 V	"
C145	QEW51HA-105	"	"	"
C146	QCF31HP-223	0.022 μF	50 V	Ceramic
C147	QEW51CA-106	10 μF	16 V	"
C148	QCF31HP-223	0.022 μF	50 V	Ceramic
C149	QCF31HP-223	"	"	"
C150	QCF31HP-223	"	"	"
C152	QCF31HP-223	"	"	"
C153	QCF31HP-223	"	"	"
C154	QCF31HP-223	"	"	"
C155	QCF31HP-223	"	"	"
C201	QEW51CA-106	10 μF	16 V	Electrolytic
C202	QFM31HK-103	0.01 μF	50 V	Mylar
C203	QEW51HA-474	0.47 μF	"	Electrolytic
C204	QEW51HA-474	"	"	"
C205	QEB51EM-106	10 μF	25 V	Low Leak Current Electrolytic
C206	QEB51HM-474	0.47 μF	50 V	"
C207	QFP32AJ-102	1000 pF	100 V	Polypropyrene
C208	QFM31HK-222	2200 pF	50 V	Mylar
C209	QEB51EM-475M	4.7 μF	25 V	Low Leak Current Electrolytic
C210	QFM31HK-152	1500 pF	50 V	Mylar
C211	QFM31HK-473	0.047 μF	"	"
C212	QEW51CA-477	470 μF	16 V	Electrolytic
C213	QEW51EA-475	4.7 μF	25 V	"
C214	QEW51EA-475	"	"	"
C215	QEW51EA-475	"	"	"
C216	QEW51EA-475	"	"	"
C217	QFP32AG-102	1000 pF	100 V	Polypropyrene
C218	QFP32AG-102	"	"	"
C219	QCS31HJ-471	470 pF	50 V	Ceramic
C220	QCS31HJ-471	"	"	"
C221	QEW51EA-475	4.7 μF	25 V	Electrolytic
C222	QEW51EA-475	"	"	"
C223	QEW51CA-107	100 μF	16 V	"
C224	QEW51CA-476	47 μF	"	"
C301	QEW51AA-476	47 μF	10 V	Electrolytic
C302	QCF31HP-223	0.022 μF	50 V	Ceramic
C303	QCF31HP-223	"	"	"
C304	QCF31HP-223	"	"	"
C305	QCF31HP-223	"	"	"
C306	QCF31HP-223	"	"	"
C307	QFM31HK-103	0.01 μF	"	Mylar
C309	QFM31HK-102	1000 pF	"	"
C310	QFM31HK-562	5600 pF	"	"
C311	QEW51HA-474	0.47 μF	"	Electrolytic
C312	QEW51HA-105	1 μF	"	"
C313	QEZ0046-105	1 μF	"	Electrolytic
C314	QEW51CA-227	220 μF	16 V	"
C315	QEW51CA-476	47 μF	"	"
C316	QCF31HP-223	0.022 μF	50 V	Ceramic
C317	QCS31HJ-2R0	2 pF	"	"

Capacitors

Item No.	Part Number	Rating		Description
C318	QCT25SH-120	12 pF	50 V	Ceramic
C319	QAT3001-006			Trimmer
C320	QCS31HJ-151	150 pF	50 V	Ceramic
C321	QCS31HJ-151	"	"	"
C322	QEW51HA-105	1 μF	"	Electrolytic
C323	QEW51CA-106	10 μF	16 V	"
C324	QCC31EM-473	0.047 μF	25 V	Ceramic
C325	QEW51CA-107	100 μF	16 V	Electrolytic
C327	QCS31HJ-101	100 pF	50 V	Ceramic
C328	QCS31HJ-101	"	"	"
C329	QCF31HP-223	0.022 μF	"	"
C351	QFM31HK-104	0.1 μF	50 V	Mylar
C401	QEB51EM-475	4.7 μF	25 V	Low Leak Current Electrolytic
C402	QEB51EM-475	"	"	"
C403	QCS31HJ-221	220 pF	50 V	Ceramic
C404	QCS31HJ-221	"	"	"
C407	QEW50JA-227	220 μF	6.3 V	Electrolytic
C408	QEW50JA-227	"	"	"
C409	QEW51HA-106	10 μF	50 V	"
C410	QEW51HA-106	"	"	"
C411	QCS31HJ-560	56 pF	"	Ceramic
C412	QCS31HJ-560	"	"	"
C413	QEW50JA-227	220 μF	6.3 V	Electrolytic
C414	QEW50JA-227	"	"	"
C415	QEZ0046-475	4.7 μF	50 V	"
C416	QEZ0046-475	"	"	"
C417	QFP32AG-272	2700 pF	100 V	Polypropyrene
C418	QFP32AG-272	"	"	"
C419	QCS31HJ-271	270 pF	50 V	Ceramic
C420	QCS31HJ-271	"	"	"
C421	QFP32AG-471	470 pF	100 V	Polypropyrene
C422	QFP32AG-471	"	"	"
C423	QEW51HA-476	47 μF	50 V	Electrolytic
C424	QEW51HA-476	"	"	"
C425	QFP32AG-471	470 pF	100 V	Polypropyrene
C426	QFP32AG-471	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R101	QRD141J-682S	6.8 kΩ	1/4 W	Carbon
R102	QRD141J-105S	1 MΩ	"	"
R103	QRD141J-470S	47 Ω	"	"
R104	QRG129J-820	82 Ω	1/2 W	Oxide Metal Film
R105	QRD141J-392S	3.9 kΩ	1/4 W	Carbon
R106	QRD141J-223S	22 kΩ	"	"
R107	QRD141J-102S	1 kΩ	"	"
R108	QRD141J-470S	47 Ω	"	"
R109	QRD141J-123S	12 kΩ	"	"
R110	QRD141J-331S	330 Ω	"	"
R111	QRD141J-822S	8.2 kΩ	"	"
R112	QRD141J-123S	12 kΩ	"	"
R113	QRD141J-152S	1.5 kΩ	"	"
R116	QRX129J-100	10 Ω	1/2 W	Oxide Metal Film
R117	QRX129J-100	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R118	QRX129J-100	10 Ω	1/2 W	Oxide Metal Film
R119	QRD141J-331S	330 Ω	1/4 W	Carbon
R120	QRD141J-331S	"	"	"
R121	QRD141J-331S	"	"	"
R122	QRD141J-331S	"	"	"
R123	QRD141J-331S	"	"	"
R124	QRD141J-331S	"	"	"
R127	QRD141J-331S	"	"	"
R128	QRD141J-224S	220 kΩ	"	"
R129	QRD141J-104S	100 kΩ	"	"
R130	QRD141J-332S	3.3 kΩ	"	"
R131	QVP4A0B-473	47 kΩ		Semi Fixed
R132	QRD141J-912S	9.1 kΩ	1/4 W	Carbon
R133	QRD141J-103S	10 kΩ	"	"
R134	QRD141J-123S	12 kΩ	"	"
R135	QRD141J-222S	2.2 kΩ	"	"
R136	QRD141J-391S	390 Ω	"	"
R137	QRD141J-103S	10 kΩ	"	"
R138	QRD141J-123S	12 kΩ	"	"
R139	QRD141J-563S	56 kΩ	"	"
R140	QRD141J-273S	27 kΩ	"	"
R141	QRX129J-100	10 Ω	1/2 W	Oxide Metal Film
R142	QRD141J-183S	18 kΩ	1/4 W	Carbon
R143	QRG129J-330	33 Ω	1/2 W	Oxide Metal Film
R201	QRD141J-473S	47 kΩ	1/4 W	Carbon
R202	QRD141J-273S	27 kΩ	"	"
R203	QRD141J-682S	6.8 kΩ	"	"
R204	QRD141J-102S	1 kΩ	"	"
R205	QRG129J-221	220 Ω	1/2 W	Oxide Metal Film
R206	QRD141J-103S	10 kΩ	1/4 W	Carbon
R207	QRD141J-392S	3.9 kΩ	"	"
R208	QRD141J-222S	2.2 kΩ	"	"
R209	QRD141J-682S	6.8 kΩ	"	"
R210	QRD141J-224S	220 kΩ	"	"
R211	QRD141J-822S	8.2 kΩ	"	"
R212	QVP4A0B-222	2.2 kΩ		Semi Fixed
R213	QRD141J-333S	33 kΩ	1/4 W	Carbon
R214	QVP4A0B-104	100 kΩ		Semi Fixed
R215	QRD141J-102S	1 kΩ	1/4 W	Carbon
R216	QRD141J-224S	220 kΩ	"	"
R218	QRG129J-820	82 Ω	1/2 W	Oxide Metal Film
R219	QRD141J-332S	3.3 kΩ	1/4 W	Carbon
R220	QRD141J-332S	"	"	"
R221	QRD141J-333S	33 kΩ	"	"
R222	QRD141J-333S	"	"	"
R223	QRD141J-392S	3.9 kΩ	"	"
R224	QRD141J-392S	"	"	"
R225	QRD141J-273S	27 kΩ	"	"
R226	QRD141J-273S	"	"	"
R227	QRD141J-102S	1 kΩ	"	"
R228	QRD141J-102S	"	"	"
R229	QRD141J-821S	820 Ω	"	"
R230	QRD141J-821S	"	"	"
R231	QRD141J-683S	68 kΩ	"	"
R232	QRD141J-683S	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R233	QRD141J-184S	180 kΩ	1/4 W	Carbon
R234	QRD141J-184S	"	"	"
R235	QRD141J-184S	"	"	"
R236	QRD141J-184S	"	"	"
R237	QRD141J-473S	47 kΩ	"	"
R238	QRD141J-473S	"	"	"
R239	QRD141J-184S	180 kΩ	"	"
R240	QRD141J-151S	150 Ω	"	"
R241	QRG129J-561	560 Ω	1/2 W	Oxide Metal Film
R242	QRD141J-472S	4.7 kΩ	1/4 W	Carbon
R243	QVP4A0B-473	47 kΩ		Semi Fixed
R301	QRD141J-181S	180 Ω	1/4 W	Carbon
R302	QRD141J-181S	"	"	"
R303	QRD141J-561S	560 Ω	"	"
R304	QRD141J-152S	1.5 kΩ	"	"
R305	QRD141J-561S	560 Ω	"	"
R306	QRD141J-331S	330 Ω	"	"
R307	QRD141J-472S	4.7 kΩ	"	"
R308	QRD141J-224S	220 kΩ	"	"
R309	QRD141J-563S	56 kΩ	"	"
R310	QRD141J-102S	1 kΩ	"	"
R311	QRD141J-272S	2.7 kΩ	"	"
R312	QRG129J-152	1.5 kΩ	1/2 W	Oxide Metal Film
R313	QRG129J-151	150 Ω	"	"
R314	QRD141J-333S	33 kΩ	1/4 W	Carbon
R315	QRD141J-184S	180 kΩ	"	"
R316	QRD141J-473S	47 kΩ	"	"
R317	QRD141J-473S	"	"	"
R318	QRD141J-103S	10 kΩ	"	"
R319	QRD141J-103S	"	"	"
R320	QRD141J-103S	"	"	"
R351	QRD141J-104S	100 kΩ	"	"
R401	QRD141J-683S	68 kΩ	"	"
R402	QRD141J-683S	"	"	"
R403	QRD141J-184S	180 kΩ	"	"
R404	QRD141J-184S	"	"	"
R405	QRD141J-182S	1.8 kΩ	"	"
R406	QRD141J-182S	"	"	"
R407	QRD141J-104S	100 kΩ	"	"
R408	QRD141J-104S	"	"	"
R409	QRD141J-122S	1.2 kΩ	"	"
R410	QRD141J-122S	"	"	"
R411	QRD141J-394S	390 kΩ	"	"
R412	QRD141J-394S	"	"	"
R413	QRD141J-824S	820 kΩ	"	"
R414	QRD141J-824S	"	"	"
R415	QRD141J-273S	27 kΩ	"	"
R416	QRD141J-273S	"	"	"
R417	QRD141J-824S	820 kΩ	"	"
R418	QRD141J-824S	"	"	"
R419	QRD141J-124S	120 kΩ	"	"
R420	QRD141J-124S	"	"	"
R421	QRD141J-393S	39 kΩ	"	"
R422	QRD141J-393S	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R423	QRD141J-823S	82 kΩ	1/4 W	Carbon
R424	QRD141J-823S	"	"	"
R425	QRD141J-102S	1 kΩ	"	"
R426	QRD141J-102S	"	"	"
R427	QRD141J-122S	1.2 kΩ	"	"
R428	QRD141J-122S	1.2 kΩ	"	"
R429	QRD1414-134S	130 kΩ	"	"
R430	QRD1414-134S	"	"	"
R431	QRD1414-102S	1 kΩ	"	"
R432	QRD1414-102S	"	"	"
R433	QRD141J-823S	82 kΩ	"	"
R434	QRD141J-823S	"	"	"
R435	QRG129J-101	100 Ω	1/2 W	Oxide Metal Film
R436	QRG129J-101	"	"	"

Others

Item No.	Part Number	Rating	Description
	E03572-007C		Antenna Terminal
	E03732-006A		6 Pin Plug
	E03732-012A		12 Pin Plug
	E60091-002		Shield Plate
	E65396-001		Ground Plate
	E65411-001		Shield Case
	E65433-001		Shield Plate
	QAA2245-002		Variable Capacitor
CF101	E03357-008		Ceramic Filter
CF102	E03357-008		"
CF103	E03357-008		"
CF301	E03613-008		"
LC201	E03427-014		Low Pass Filter
LC202	E03427-014		"

9-(2) TXX-114A Select Switch P.C.Board Ass'y

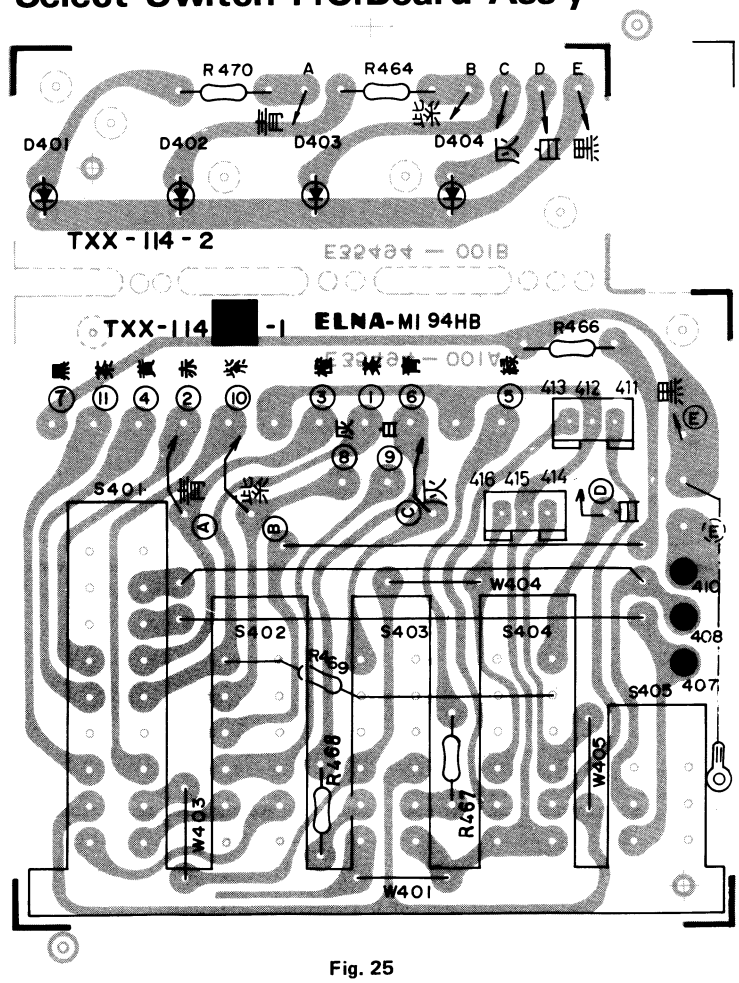


Fig. 25

Diodes

Item No.	Part Number	Rating		Description	Maker
D401	TLR102			L.E.D.	Toshiba
D402	TLR102			"	"
D403	TLR102			"	"
D404	TLR102			"	"

Resistors

Item No.	Part Number	Rating		Description
R464	QRD141J-102S	1 kΩ	1/4 W	Carbon
R466	QRD141J-331S	330 Ω	"	"
R467	QRD141J-561S	560 Ω	"	"
R468	QRD141J-561S	"	"	"
R469	QRD141J-102S	1 kΩ	"	"
R470	QRD141J-102S	"	"	"

Others

Item No.	Part Number	Rating	Description
	E03732-003A		3 Pin Plug
	E03733-1203		Wire Socket Ass'y
	E35530-001		V-Bracket
	E65419-001		L.E.D. Holder
	QSP0251-101		Push Switch S401 – S405

9-(3) TXX-115B Speaker Terminal P.C. Board Ass'y

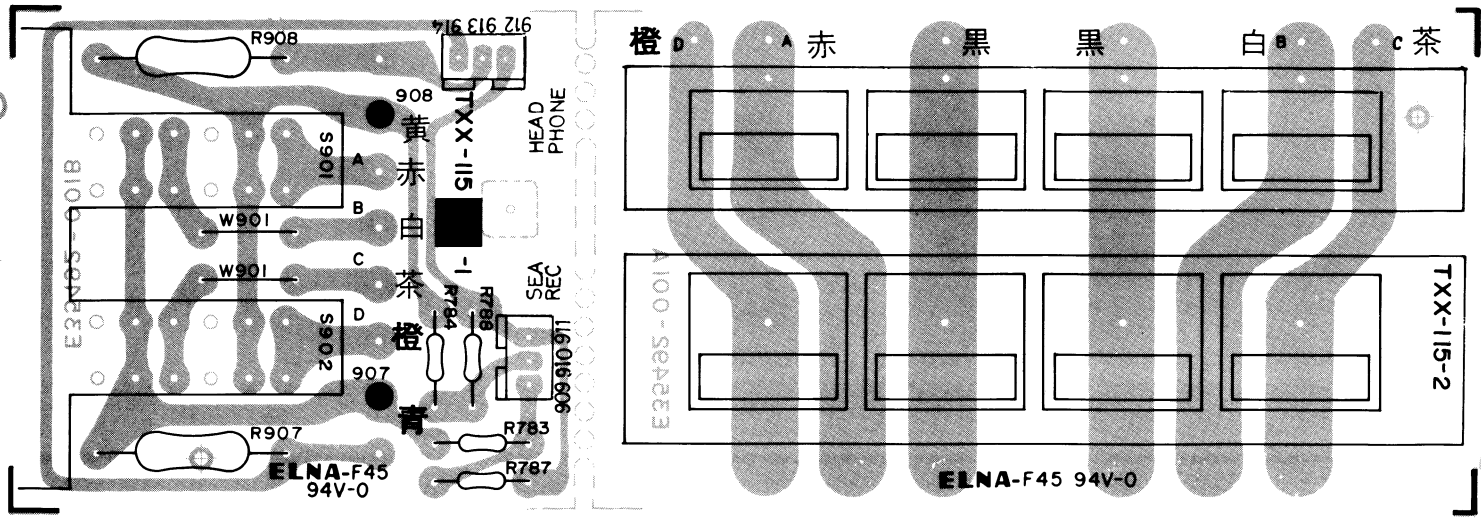


Fig. 26

Resistors

Item No.	Part Number	Rating		Description
R783	QRD141J-332S	3.3 kΩ	1/4 W	Carbon
R784	QRD141J-332S	"	"	"
R787	QRD141J-102S	1 kΩ	"	"
R788	QRD141J-102S	"	"	"
R907	QRG027J-271	270 Ω	2 W	Oxide Metal Film
R908	QRG027J-271	"	"	"

Others

Item No.	Part Number	Rating	Description
	E03572-008B		Speaker Terminal
	E03732-003A		3 Pin Plug
	QSP0220-101		Push Switch S901, 902

9-(4) TXX-116B Pin-jack P.C. Board Ass'y

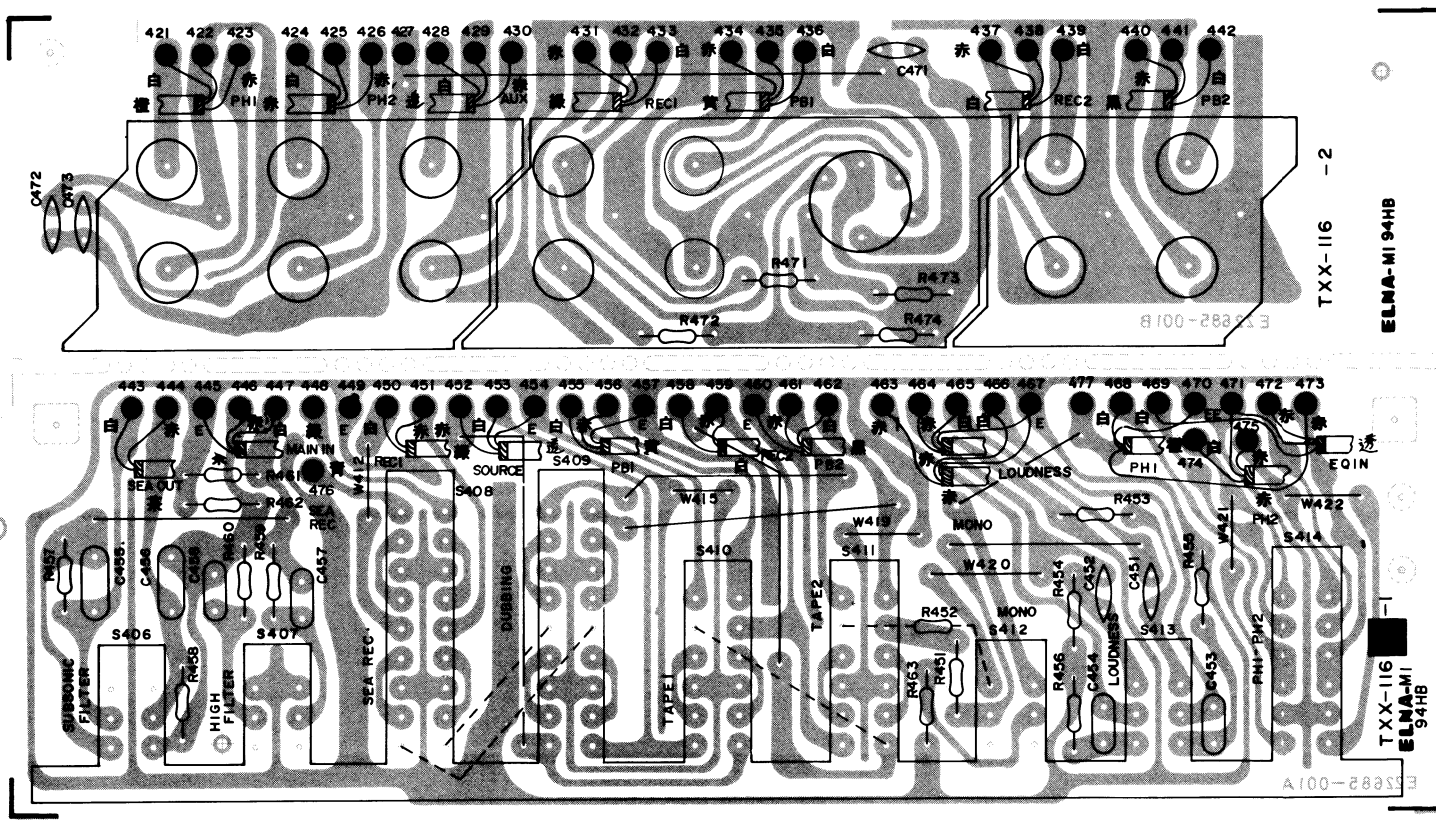


Fig. 27

Capacitors

Item No.	Part Number	Rating		Description
C451	QCS31HJ-271	270 pF	50 V	Ceramic
C452	QCS31HJ-271	"	"	"
C453	QFM31HK-273	0.027 μF	"	Mylar
C454	QFM31HK-273	"	"	"
C455	QFM31HK-184	0.18 μF	"	"
C456	QFM31HK-184	"	"	"
C457	QFM31HK-103	0.01 μF	"	"
C458	QFM31HK-103	"	"	"
C471	QCF31HP-103	"	"	Ceramic
C472	QCF31HP-103	"	"	"
C473	QCF31HP-103	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R451	QRD141J-472S	4.7 kΩ	1/4 W	Carbon
R452	QRD141J-472S	"	"	"
R453	QRD141J-564S	560 kΩ	"	"
R454	QRD141J-564S	"	"	"
R455	QRD141J-153S	15 kΩ	"	"
R456	QRD141J-153S	"	"	"
R457	QRD141J-224S	220 kΩ	"	"
R458	QRD141J-224S	"	"	"
R459	QRD141J-224S	"	"	"
R460	QRD141J-224S	"	"	"
R471	QRD141J-394S	390 kΩ	"	"
R472	QRD141J-394S	"	"	"
R473	QRD141J-104S	100 kΩ	"	"
R474	QRD141J-104S	"	"	"

Others

Item No.	Part Number	Rating	Description
	E03565-3B0		3 Pin Socket
	E03565-7B0		7 Pin Socket
	E03591-001		DIN Socket Ass'y
	E03591-40D		4 Pin Pin-jack Ass'y
	E03591-60D		6 Pin Pin-jack Ass'y
	QSP0231-102		Push Switch S406 – S408
	QSP0250-101		" S410 – S414
	E03733-0305		Wire Socket Ass'y
	E03733-0603		"
	E03733-0303		"
	E03733-0304		"

9-(5) TXX-117E (or F) and TXX-130E (or F) AC Block P.C. Board Ass'y

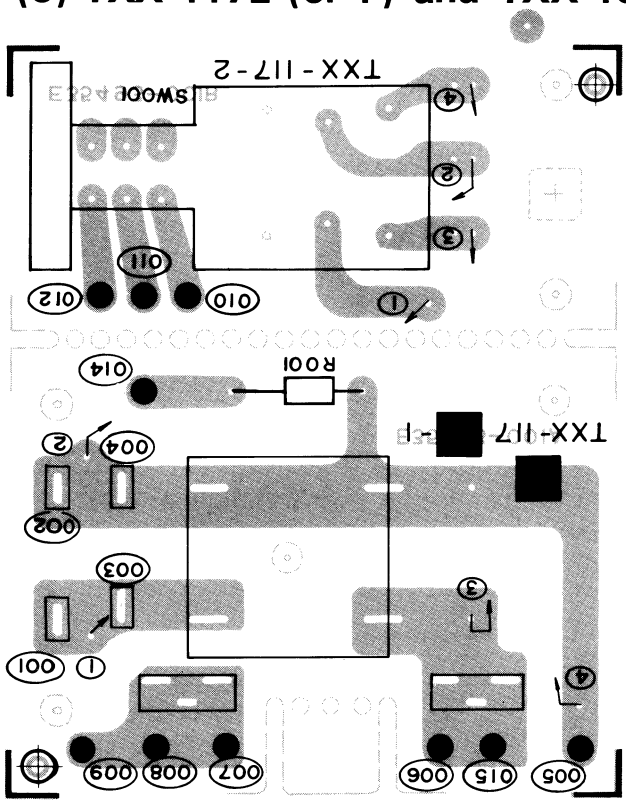


Fig. 28

Fig. 29

Note: The number of TXX-117 varies according to the area employed. See table below.

Designated Area	U.S.A. and Canada	U.S. Military Market and Other Countries	Australia and Europe	U.K.
P.C. Board Ass'y	TXX-117E	TXX-117F	TXX-130E	TXX-130F

P.C. Board Ass'y	Item No.	Part Number	Rating		Description
TXX-117E	R001	QRC121K-275E	2.7 MΩ	1/2 W	Composition Resistor
		QSP0020-001E			Power Switch
		E03675-003			Fuse Clip
		QMC0437-001			AC Outlet
TXX-117F	R001	QRC121K-475E	4.7 MΩ	1/2 W	Composition Resistor
		QSP0020-001E			Power Switch
		QMC0437-001			AC Outlet
TXX-130E		QSP0020-002			Power Switch
		E65412-001			P.C. Board Holder
TXX-130F		QSP0020-002BS			Power Switch
		E65412-001			P.C. Board Holder

9-(6) TPS-118C (or D) DC Power Supply P.C. Board Ass'y

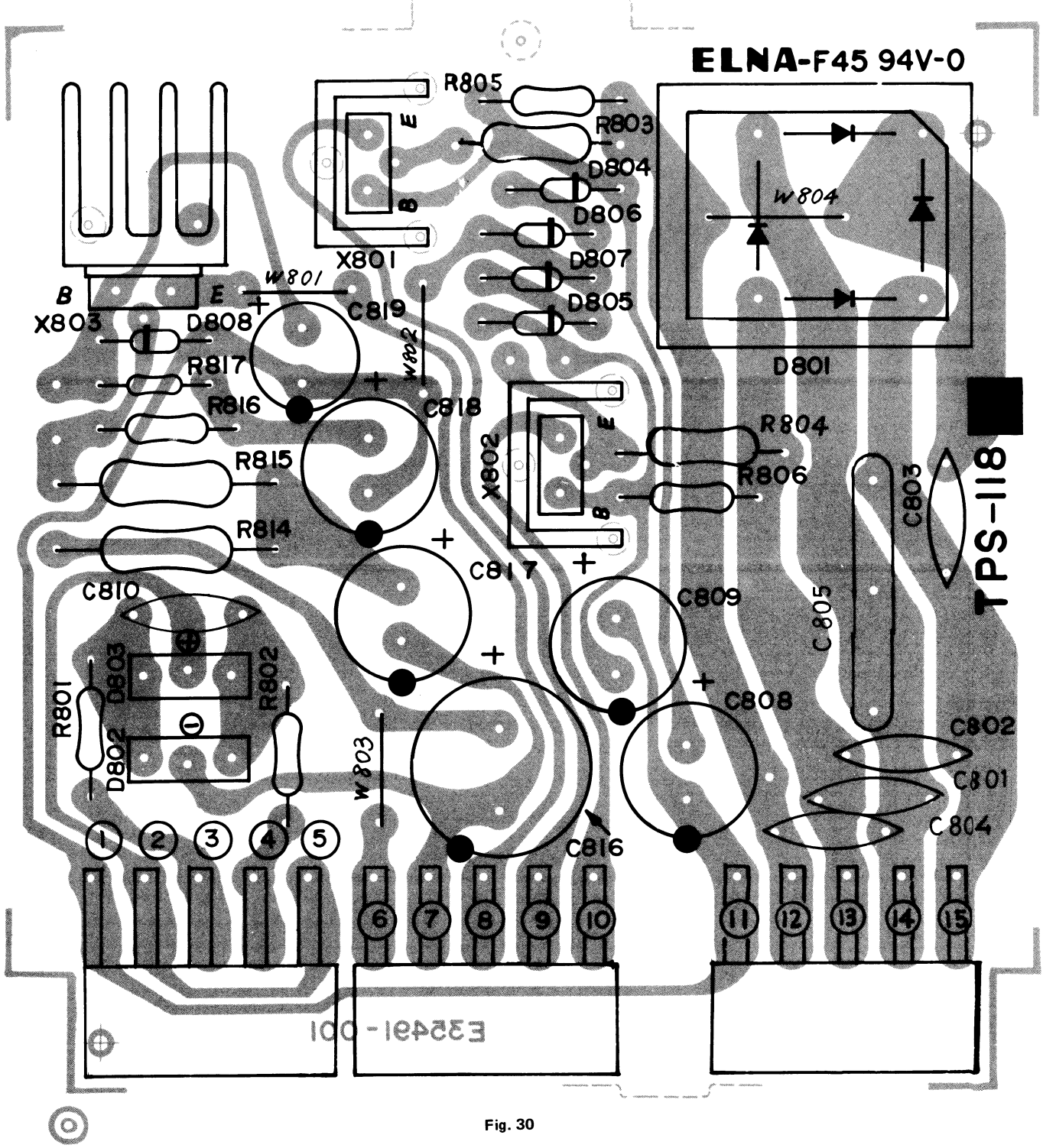


Fig. 30

Note: The number of TPS-118 varies according to the area employed. See table at page 27.

Transistors

Item No.	Part Number	Rating		Description	Maker
		Pc	fT		
X801	2SD330V(D, E)	20 W	8 MHz	Silicon	Sanyo
X802	2SB514V(D, E)	"	"	"	"
X803	2SD330V(D, E)	"	"	"	"

Diodes

Item No.	Part Number	Rating		Description	Maker
D801	S5VB20			Silicon	Shindengen
D804	WZ-280	28 V		Zener	JRC
D805	WZ-280	"		"	"
D808	XZ-132	13.2 V		"	"

Capacitors

Item No.	Part Number	Rating		Description
C801	QCF12HP-103	0.01 μF	500 V	Ceramic
C802	QCF12HP-103	"	"	"
C803	QCF12HP-103	"	"	"
C804	QCF12HP-103	"	"	"
C805	See table below.			Different in different areas.
C808	QEW51VA-107	100 μF	35 V	Electrolytic
C809	QEW51VA-107	"	"	"
C818	QEW51VA-227	220 μF	"	"
C819	QEW51VA-107	100 μF	"	"

Table

P.C. Board Ass'y	Areas	Item No.	Part Number	Rating
TPS-118C	for U.S.A., Canada, Military Market and Others	C805	QCF12HP-103	0.01 μF/500 V
TPS-118D	for Europe, Australia and U.K.	C805	QFH52BM-104M	0.1 μF/125 V

Resistors

Item No.	Part Number	Rating		Description
R803	QRG017J-680S	68 Ω	1 W	Oxide Metal Film
R804	QRG017J-680S	"	"	"
R805	QRG129J-392	3.9 kΩ	1/2 W	"
R806	QRG129J-392	"	"	"
R814	QRG036J-101	100 Ω	3 W	"
R815	QRG027J-330	33 Ω	2 W	"
R816	QRG129J-392	3.9 kΩ	1/2 W	"

Others

Item No.	Part Number	Rating	Description	
	E03565-5D		5 Pin Socket	
	E60171-003		Heat Sink for X801, 802	
	E61537-001		Heat Sink for X803	

9-(7) TPS-126E, F, G (or H) Fuse P.C. Board Ass'y

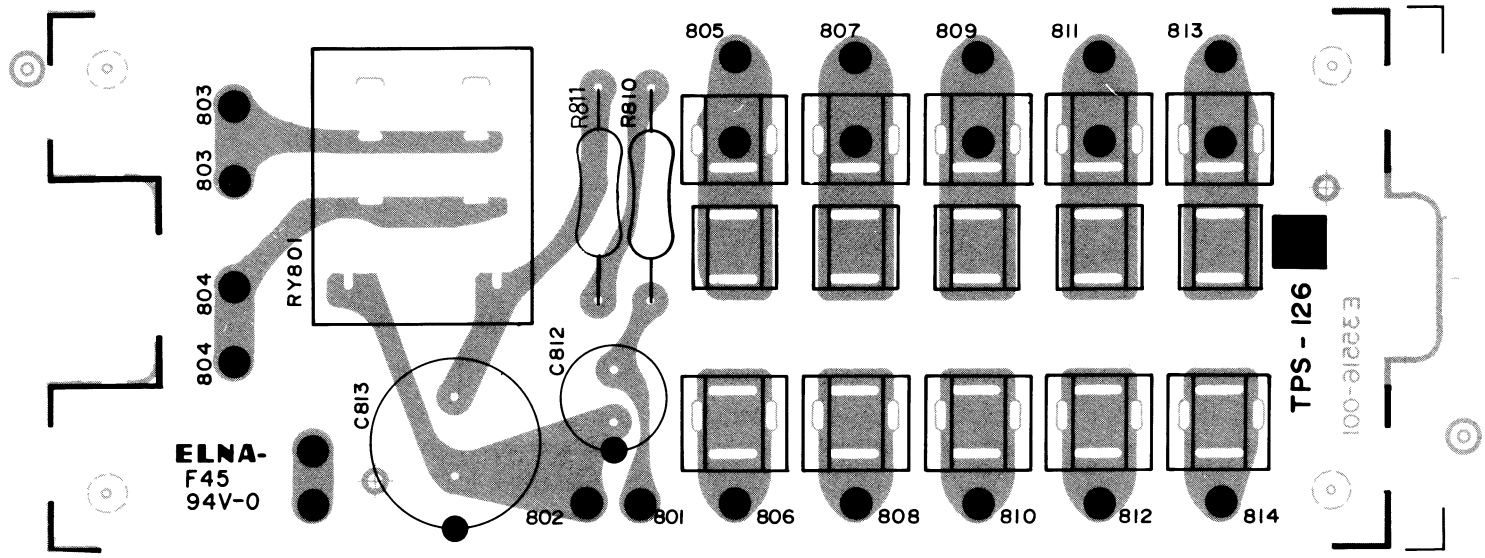


Fig. 31

Note: The number of TPS-126 varies according to the areas employed. See table below.

Designated Area	U.S.A. and Canada	Military Market and other areas	Australia and Europe	U.K.
P.C. Board Ass'y	TPS-126E	TPS-126F	TPS-126G	TPS-126H

P.C. Board Ass'y	Item No.	Parts Number	Rating	Description
TPS-126E		E45524-001		Fuse Clip
TPS-126F		E45524-001		"
TPS-126G		E45524-001		"
		E48965-002		"
TPS-126H		E48965-002		"

9-(8) TAP-273B Power Amp. P.C. Board Ass'y

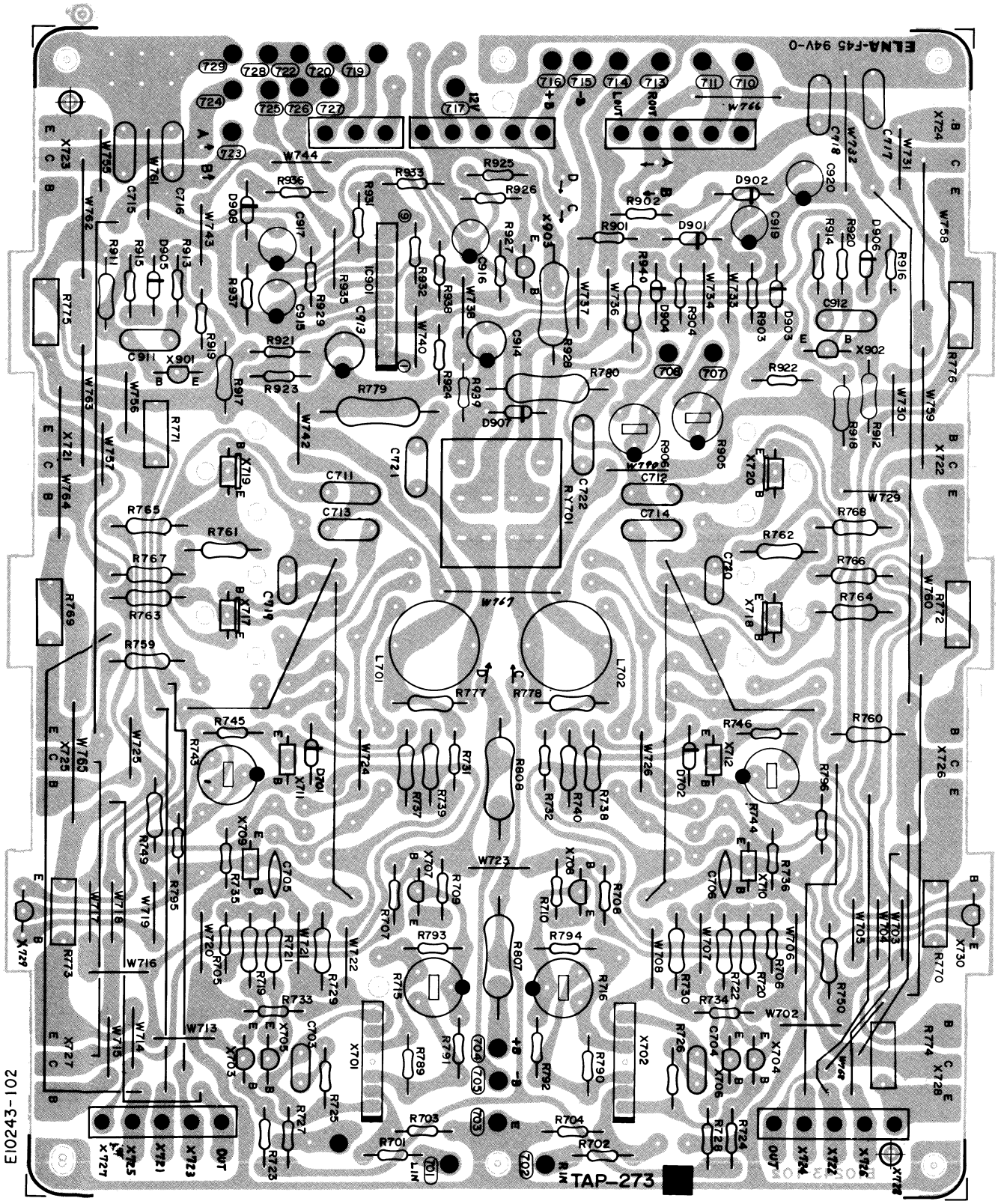


Fig. 32

Transistors

Item No.	Part Number	Rating		Description	Maker
		Pc	fT		
X701	2SK109 (D, E)	0.15 W			Mitsubishi
X702	2SK109 (D, E)	"			"
X703	2SC1775AV (F)	0.3 W	200 MHz	Silicon	Hitachi
X704	2SC1775AV (F)	"	"	"	"
X705	2SC1775AV (F)	"	"	"	"
X706	2SC1775AV (F)	"	"	"	"
X707	2SC1775AV (F)	"	"	"	"
X708	2SC1775AV (F)	"	"	"	"
X709	2SA899 (B, V)	1 W	100 MHz	"	Fujitsu
X710	2SA899 (B, V)	"	"	"	"
X711	2SC1904 (B, V)	"	"	"	"
X712	2SC1904 (B, V)	"	"	"	"
X717	2SD381 (L, M)	20 W	60 MHz	"	NEC
X718	2SD381 (L, M)	"	"	"	"
X719	2SB536 (L, M)	"	"	"	"
X720	2SB536 (L, M)	"	"	"	"
X721	2SD736 (B, C)	100 W	10 MHz	"	Hitachi
X722	2SD736 (B, C)	"	"	"	"
X723	2SD736 (B, C)	"	"	"	"
X724	2SD736 (B, C)	"	"	"	"
X725	2SB700 (B, C)	"	18 MHz	"	"
X726	2SB700 (B, C)	"	"	"	"
X727	2SB700 (B, C)	"	"	"	"
X728	2SB700 (B, C)	"	"	"	"
X729	2SC458 (C)	0.2 W	230 MHz	Silicon	"
X730	2SC458 (C)	"	"	"	"
X901	2SC1775AV (F)	0.3 W	200 MHz	"	"
X902	2SC1775AV (F)	"	"	"	"
X903	2SA872AV (E)	"	120 MHz	"	"

Integrated Circuits

Item No.	Part Number	Rating		Description	Maker
		Pc			
IC901	TA7317P	0.5 W		I.C.	Toshiba

Diodes

Item No.	Part Number	Rating	Description	Maker
D701	1S2473		Silicon	Toyo Denshi
D702	1S2473		"	"
D901	1S2473		"	"
D902	1S2473		"	"
D903	1S2473		"	"
D904	1S2473		"	"
D905	1S2473		"	"
D906	1S2473		"	"
D907	1S2473		"	"
D908	1S2473		"	"

Coils

Item No.	Part Number	Rating		Description
L701	E04059-1R2	1.2 μH		Choke Coil
L702	E04059-1R2	"		"

Capacitors

Item No.	Part Number	Rating		Description
C703	QFM31HK-102	1000 pF	50 V	Mylar
C704	QFM31HK-102	"	"	"
C705	QCS12HJ-330	33 pF	500 V	Ceramic
C706	QCS12HJ-330	"	"	"
C711	QFM42AK-104	0.1 μF	100 V	Mylar
C712	QFM42AK-104	"	"	"
C713	QFM42AK-104	"	"	"
C714	QFM42AK-104	"	"	"
C715	QFM42AK-104	"	"	"
C716	QFM42AK-104	"	"	"
C717	QFM42AK-104	"	"	"
C718	QFM42AK-104	"	"	"
C719	QFM31HK-103	0.01 μF	50 V	"
C720	QFM31HK-103	"	"	"
C721	QFM42AK-473	0.047 μF	100 V	"
C722	QFM42AK-473	"	"	"
C911	QFM31HK-104	0.1 μF	50 V	Mylar
C912	QFM31HK-104	"	"	"
C913	QEW51AA-107	100 μF	10 V	Electrolytic
C914	QEW51AA-107	"	"	"
C915	QEW51AA-226	22 μF	"	"
C916	QEW51HA-106	10 μF	50 V	"
C917	QEW51HA-105	1 μF	"	"
C919	QEW51CA-106	10 μF	16 V	"
C920	QEW51CA-106	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R701	QRD141J-122S	1.2 kΩ	1/4 W	Carbon
R702	QRD141J-122S	"	"	"
R703	QRD141J-563S	56 kΩ	"	"
R704	QRD141J-563S	"	"	"
R705	QRD141J-183S	18 kΩ	"	"
R706	QRD141J-183S	"	"	"
R707	QRD141J-103S	10 kΩ	"	"
R708	QRD141J-103S	"	"	"
R709	QRD141J-562S	5.6 kΩ	"	"
R710	QRD141J-562S	"	"	"
R715	QVP4A0B-221	220 Ω		Semi-Fixed
R716	QVP4A0B-221	"		"
R719	QRG129J-121	120 Ω	1/2 W	Oxide Metal Film
R720	QRG129J-121	"	"	"
R721	QRG129J-121	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R722	QRG129J-121	120 Ω	1/2 W	Oxide Metal Film
R723	QRD141J-123S	12 kΩ	1/4 W	Carbon
R724	QRD141J-123S	"	"	"
R725	QRD141J-122S	1.2 kΩ	"	"
R726	QRD141J-122S	"	"	"
R727	QRD141J-123S	12 kΩ	"	"
R728	QRD141J-123S	"	"	"
R729	QRG129J-102	1 kΩ	1/2 W	Oxide Metal Film
R730	QRG129J-102	"	"	"
R731	QRD141J-563S	56 kΩ	1/4 W	Carbon
R732	QRD141J-563S	"	"	"
R733	QRD141J-302S	3 kΩ	"	"
R734	QRD141J-302S	"	"	"
R735	QRD141J-223S	22 kΩ	"	"
R736	QRD141J-223S	"	"	"
R737	QRG129J-221	220 Ω	1/2 W	Oxide Metal Film
R738	QRG129J-221	"	"	"
R739	QRG129J-101	100 Ω	"	"
R740	QRG129J-101	"	"	"
R743	QVP4A0B-102	1 kΩ		Semi-Fixed
R744	QVP4A0B-102	"		"
R745	QRD141J-302S	3 kΩ	1/4 W	Carbon
R746	QRD141J-302S	"	"	"
R749	QRX129J-100	10 Ω	1/2 W	Oxide Metal Film
R750	QRX129J-100	"	"	"
R759	QRG129J-100	"	"	"
R760	QRG129J-100	"	"	"
R761	QRG129J-271	270 Ω	"	"
R762	QRG129J-271	"	"	"
R763	QRG129J-100	10 Ω	"	"
R764	QRG129J-100	"	"	"
R765	QRX129J-5R6	5.6 Ω	"	"
R766	QRX129J-5R6	"	"	"
R767	QRX129J-5R6	"	"	"
R768	QRX129J-5R6	"	"	"
R769	QRM054K-R47S	0.47 Ω	5 W	Metal Plate
R770	QRM054K-R47S	"	"	"
R771	QRM054K-R47S	"	"	"
R772	QRM054K-R47S	"	"	"
R773	QRM054K-R47S	"	"	"
R774	QRM054K-R47S	"	"	"
R775	QRM054K-R47S	"	"	"
R776	QRM054K-R47S	"	"	"
R777	QRX129J-4R7	4.7 Ω	1/2 W	Oxide Metal Film
R778	QRX129J-4R7	"	"	"
R779	QRX027J-100	10 Ω	2 W	"
R780	QRX027J-100	"	"	"
R789	QRD141J-560S	56 Ω	1/4 W	Carbon
R790	QRD141J-560S	"	"	"
R791	QRD141J-222S	2.2 kΩ	"	"
R792	QRD141J-222S	"	"	"
R793	QRD141J-222S	"	"	"
R794	QRD141J-222S	"	"	"
R795	QRD141J-682S	6.8 kΩ	"	"
R796	QRD141J-682S	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R807	QRG027J-181	180 Ω	2 W	Oxide Metal Film
R808	QRG027J-151	150 Ω	"	"
R901	QRD141J-682S	6.8 kΩ	1/4 W	Carbon
R902	QRD141J-682S	"	"	"
R903	QRD141J-391S	390 Ω	"	"
R904	QRD141J-391S	"	"	"
R905	QVP4A0B-472	4.7 kΩ		Semi-Fixed
R906	QVP4A0B-472	"		"
R911	QRD126J-222	2.2 kΩ	1/2 W	Carbon
R912	QRD126J-222	"	"	"
R913	QRD141J-101S	100 Ω	1/4 W	"
R914	QRD141J-101S	"	"	"
R915	QRD141J-123S	12 kΩ	"	"
R916	QRD141J-123S	"	"	"
R917	QRD126J-471	470 Ω	1/2 W	"
R918	QRD126J-471	"	"	"
R919	QRD141J-123S	12 kΩ	1/4 W	"
R920	QRD141J-123S	"	"	"
R921	QRD141J-104S	100 kΩ	"	"
R922	QRD141J-104S	"	"	"
R923	QRD141J-563S	56 kΩ	"	"
R924	QRD141J-563S	"	"	"
R925	QRD141J-103S	10 kΩ	"	"
R926	QRD141J-332S	3.3 kΩ	"	"
R927	QRD141J-563S	56 kΩ	"	"
R928	QRG027J-681	680 Ω	2 W	Oxide Metal Film
R929	QRD141J-183S	18 kΩ	1/4 W	Carbon
R931	QRD141J-204S	200 kΩ	"	"
R932	QRD141J-683S	68 kΩ	"	"
R933	QRD141J-183S	18 kΩ	"	"
R936	QRD141J-102S	1 kΩ	"	"
R937	QRD141J-223S	22 kΩ	"	"
R938	QRD141J-563S	56 kΩ	"	"
R939	QRD141J-680S	68 Ω	"	"
R940	QRD126J-822	8.2 kΩ	1/2 W	"

Others

Item No.	Part Number	Rating	Description
	E03628-3UD		3 Pin Plug
	E03628-5UD		5 Pin Plug
	E03728-3-15-1		Parallel Wire
	E35553-003		Heat Sink for Power Transistors
	E35566-001		Heat Sink Holder
	E65504-002		Shield Plate
	GBSB3008Z		Tapping Screw
RY901	ESK6D24-211		Protector Relay

9-(9) TAC-488B S.E.A. (Sound Effect Amp.) P.C. Board Ass'y

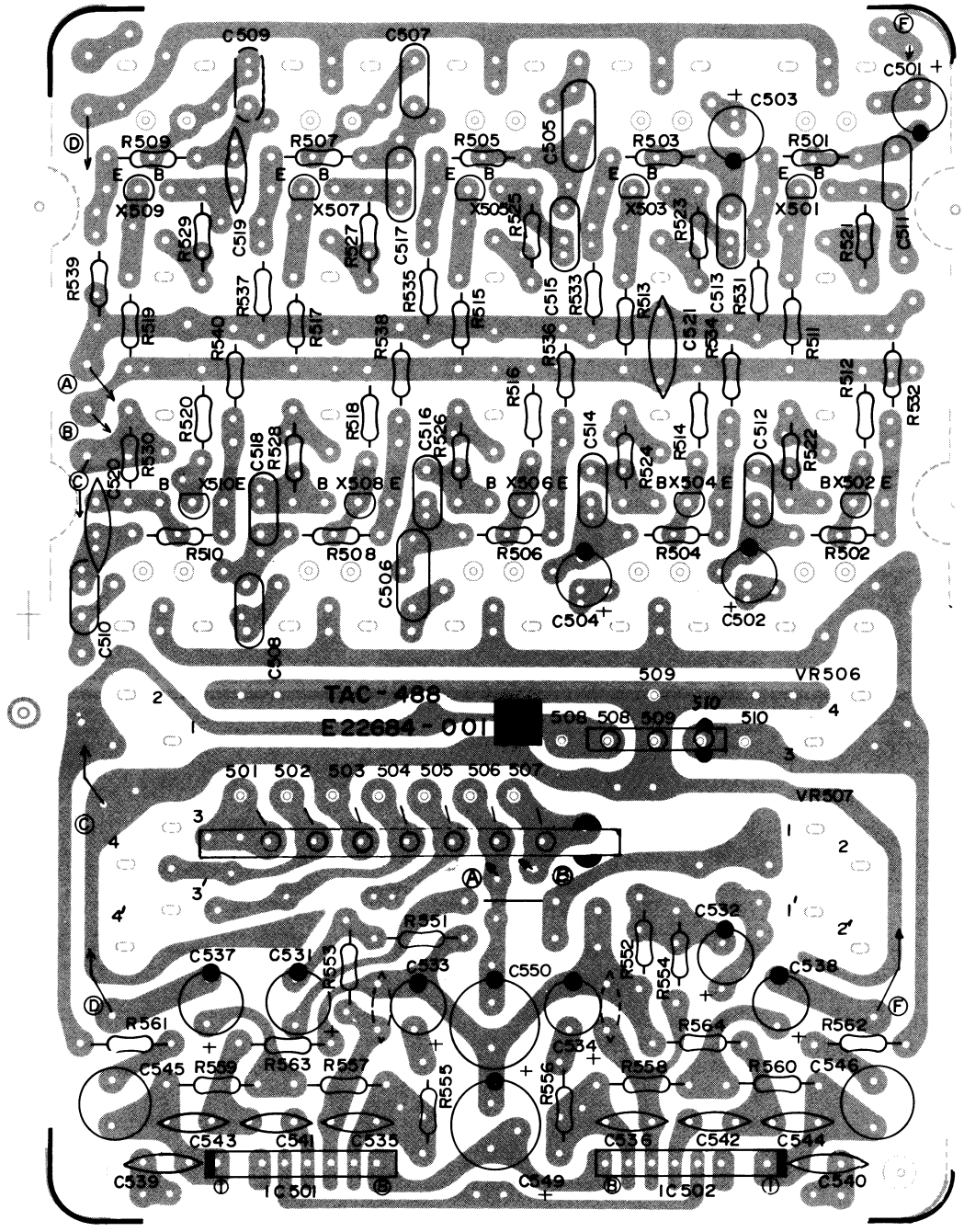


Fig. 33

Transistors

Item No.	Part Number	Rating		Description	Maker
		Pc	fT		
X501	2SC1775AV(F)	0.3 W	200 MHz	Silicon	Hitachi
X502	2SC1775AV(F)	"	"	"	"
X503	2SC1775AV(F)	"	"	"	"
X504	2SC1775AV(F)	"	"	"	"
X505	2SC1775AV(F)	"	"	"	"
X506	2SC1775AV(F)	"	"	"	"
X507	2SC1775AV(F)	"	"	"	"
X508	2SC1775AV(F)	"	"	"	"
X509	2SC1775AV(F)	"	"	"	"
X510	2SC1775AV(F)	"	"	"	"

Integrated Circuits

Item No.	Part Number	Rating		Description	Maker
		Pc			
IC501	HA1457	0.5 W		I.C.	Hitachi
IC502	HA1457	"		"	"

Capacitors

Item No.	Part Number	Rating		Description
C501	QEB51EM-475	4.7 μF	25 V	Low Leak Current Electrolytic
C502	QEB51EM-475	"	"	"
C503	QEB51HM-474	0.47 μF	50 V	"
C504	QEB51HM-474	"	"	"
C505	QFM31HK-124	0.12 μF	"	Mylar
C506	QFM31HK-124	"	"	"
C507	QFM31HK-273	0.027 μF	"	"
C508	QFM31HK-273	"	"	"
C509	QFM31HK-562	5600 pF	"	"
C510	QFM31HK-562	"	"	"
C511	QFM31HK-223	0.022 μF	"	"
C512	QFM31HK-223	"	"	"
C513	QFM31HK-822	8200 pF	"	"
C514	QFM31HK-822	"	"	"
C515	QFM31HK-332	3300 pF	"	"
C516	QFM31HK-332	"	"	"
C517	QFM31HK-102	1000 pF	"	"
C518	QFM31HK-102	"	"	"
C519	QCS31HJ-681	680 pF	"	Ceramic
C520	QCS31HJ-681	"	"	"
C531	QEB51EM-475	4.7 μF	25 V	Low Leak Current Electrolytic
C532	QEB51EM-475	"	"	"
C533	QEW51AA-476	47 μF	10 V	Electrolytic
C534	QEW51AA-476	"	"	"
C535	QCS31HJ-101	100 pF	50 V	Ceramic
C536	QCS31HJ-101	"	"	"
C537	QEW51AA-476	47 μF	10 V	Electrolytic
C538	QEW51AA-476	"	"	"
C539	QCS31HJ-820	82 pF	50 V	Ceramic
C540	QCS31HJ-820	"	"	"
C541	QCS31HJ-560	56 pF	"	"
C542	QCS31HJ-560	"	"	"
C543	QCS31HJ-271	270 pF	"	"
C544	QCS31HJ-271	"	"	"
C545	QEZ0046-475	4.7 μF	"	Non Polar Electrolytic
C546	QEZ0046-475	"	"	"
C549	QEW51EA-476	47 μF	25 V	Electrolytic
C550	QEW51EA-476	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R501	QRD141J-122S	1.2 kΩ	1/4 W	Carbon
R502	QRD141J-122S	"	"	"
R503	QRD141J-122S	"	"	"
R504	QRD141J-122S	"	"	"
R505	QRD141J-122S	"	"	"
R506	QRD141J-122S	"	"	"
R507	QRD141J-122S	"	"	"
R508	QRD141J-122S	"	"	"
R509	QRD141J-122S	"	"	"
R510	QRD141J-122S	"	"	"

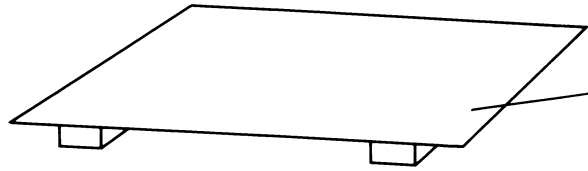
Resistors

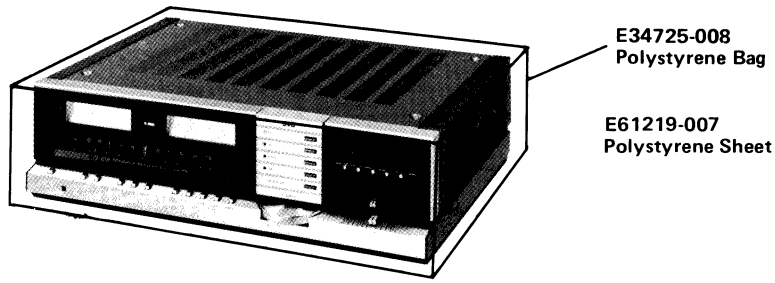
Item No.	Part Number	Rating		Description
R511	QRD141J-391S	390 Ω	1/4 W	Carbon
R512	QRD141J-391S	"	"	"
R513	QRD141J-391S	"	"	"
R514	QRD141J-391S	"	"	"
R515	QRD141J-391S	"	"	"
R516	QRD141J-391S	"	"	"
R517	QRD141J-391S	"	"	"
R518	QRD141J-391S	"	"	"
R519	QRD141J-391S	"	"	"
R520	QRD141J-391S	"	"	"
R521	QRD141J-134S	130 kΩ	"	"
R522	QRD141J-134S	"	"	"
R523	QRD141J-913S	91 kΩ	"	"
R524	QRD141J-913S	"	"	"
R525	QRD141J-513S	51 kΩ	"	"
R526	QRD141J-513S	"	"	"
R527	QRD141J-333S	33 kΩ	"	"
R528	QRD141J-333S	"	"	"
R529	QRD141J-243S	24 kΩ	"	"
R530	QRD141J-243S	"	"	"
R531	QRD141J-682S	6.8 kΩ	"	"
R532	QRD141J-682S	"	"	"
R533	QRD141J-682S	"	"	"
R534	QRD141J-682S	"	"	"
R535	QRD141J-682S	"	"	"
R536	QRD141J-682S	"	"	"
R537	QRD141J-682S	"	"	"
R538	QRD141J-682S	"	"	"
R539	QRD141J-682S	"	"	"
R540	QRD141J-682S	"	"	"
R551	QRD141J-184S	180 kΩ	"	"
R552	QRD141J-184S	"	"	"
R553	QRD141J-102S	1 kΩ	"	"
R554	QRD141J-102S	"	"	"
R555	QRD141J-222S	2.2 kΩ	"	"
R556	QRD141J-222S	"	"	"
R557	QRD141J-682S	6.8 kΩ	"	"
R558	QRD141J-682S	"	"	"
R559	QRD141J-103S	10 kΩ	"	"
R560	QRD141J-103S	"	"	"
R561	QRD141J-562S	5.6 kΩ	"	"
R562	QRD141J-562S	"	"	"
R563	QRD141J-102S	1 kΩ	"	"
R564	QRD141J-102S	"	"	"

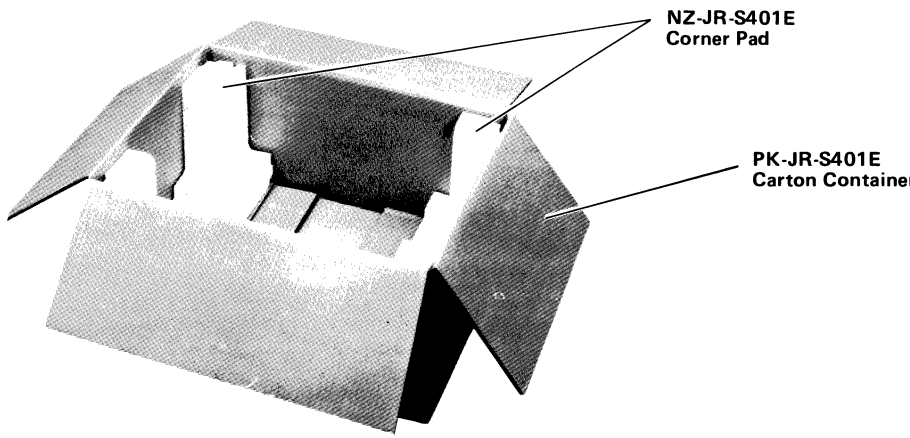
Others

Item No.	Part Number	Rating		Description
	E03628-3UD			3 Pin Plug
	E03628-7UD			7 Pin Plug
	E35529-001			S.E.A. Bracket
	E65381-001			Felt Spacer
VR501	QVZ5010-002	250 k(W)		S.E.A. Volume
VR502	QVZ5010-002	"		"
VR503	QVZ5010-002	"		"
VR504	QVZ5010-002	"		"
VR505	QVZ5010-002	"		"
VR506	QVT6C2W-6F5	250 kΩ (W)		BALANCE Volume
VR507	QVT9C2B-5G5E	150 kΩ (B)		Main Volume

10. Packing Materials and Part Numbers





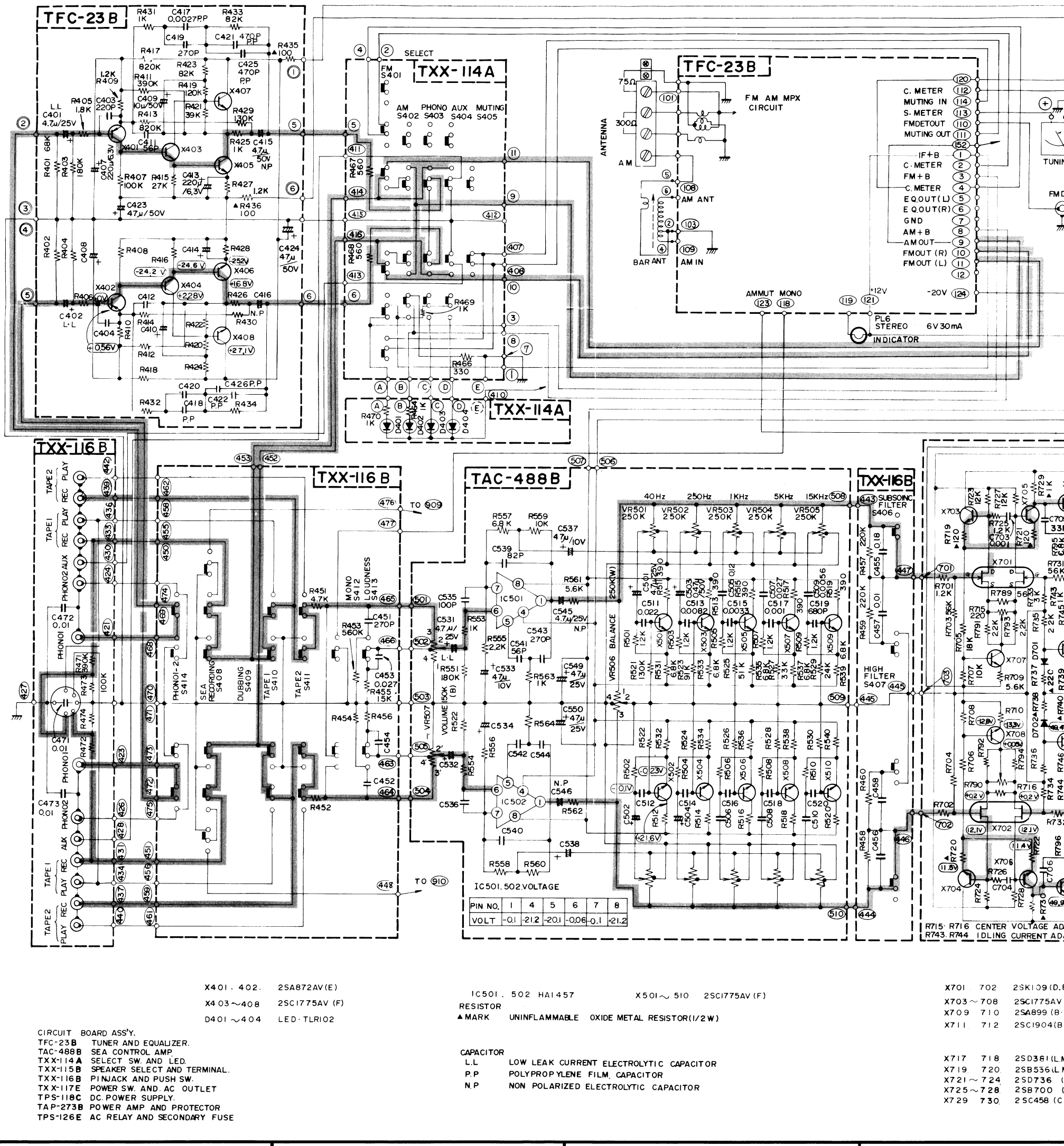


11. Accessories List

Description	U.S.A.	Canada	PACEX and Other Countries	Europe	Australia	U.K.
Instruction Book	E30580-697A	E30580-698A	E30580-697A	E30580-698A	E30580-697A	E30580-697ABS
Envelope	E64207-002	E64207-002	E64207-002	E64207-002	E64207-002	E64207-002
Warranty Card	BT20032	BT20025B	BT20032 (PACEX)	–	BT20029	BT20013B
Service Procedure	BT20023	–	–	–	–	–
Do It Better	BT20024	–	–	–	–	–
Built-in Antenna	E03614-002	E03614-002	E03614-002	E03614-002	E03614-002	E03614-002
Fuse ⚠	–	–	QMF60R1-6R0	–	–	–
Fuse ⚠	–	–	QMF60R1-3R3	–	–	–
Fuse Label	–	–	E7958-V	–	–	–
Fuse Envelope	–	–	E64208-001	–	–	–
Siemens Plug	–	–	E04056	–	–	–
Caution Sheet	–	–	E35497-005-008	E35497-007	E35497-008	E35497-008
Caution Tag	–	–	E64216-002	–	–	–

NOTE: ⚠ SAFETY PARTS

12. JR-S401 Schematic Diagrams



X401 . 402 . 2SA872AV(E)
X403 ~ 408 2SC1775AV (F)
D401 ~ 404 LED·TLR102

CIRCUIT BOARD ASS'Y.
TFC-23B TUNER AND EQUALIZER.
TAC-488B SEA CONTROL AMP.
TXX-114A SELECT SW. AND LED.
TXX-115B SPEAKER SELECT AND TERMINAL.
TXX-116B PINJACK AND PUSH SW.
TXX-117E POWER SW. AND AC OUTLET
TPS-118C DC. POWER SUPPLY.
TAP-273B POWER AMP AND PROTECTOR
TPS-126E AC RELAY AND SECONDARY FUSE

IC501 . 502 HA1457 X501 ~ 510 2SC1775AV(F)

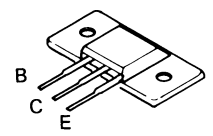
RESISTOR
▲MARK UNINFLAMMABLE OXIDE METAL RESISTOR(1/2W)

CAPACITOR
L.L LOW LEAK CURRENT ELECTROLYTIC CAPACITOR
P.P POLYPROPYLENE FILM CAPACITOR
N.P NON POLARIZED ELECTROLYTIC CAPACITOR

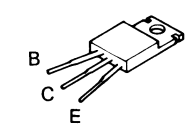
X701 702 2SK109(D,E
X703 ~ 708 2SC1775AV
X709 710 2SA899 (B·
X711 712 2SC1904(B
X717 718 2SD381(L,M
X719 720 2SB536(L,M
X721 ~ 724 2SD736 (
X725 ~ 728 2SB700 (
X729 730 2SC458 (C

Printed Circuit Board Ass'y Locations

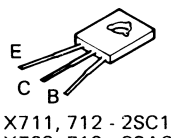
P.C. Board Ass'y	Description	Page
TFC-23B	FM/AM Tuners and Equalizer Amp. P.C. Board Ass'y	14
TXX-114A	Select Switch P.C. Board Ass'y	22
TXX-115B	Speaker Terminal P.C. Board Ass'y	23
TXX-116B	Pin-jack P.C. Board Ass'y	24
TXX-117E (or F) and TXX-130E (or F)	AC Block P.C. Board Ass'y	25
TPS-118C (or D)	DC Power Supply P.C. Board Ass'y	26
TPS-126E, F, G (or H)	Fuse P.C. Board Ass'y	28
TAP-273B	Power Amp. P.C. Board Ass'y	29
TAC-488B	S.E.A. (Sound Effect Amp.) P.C. Board Ass'y	34



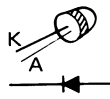
X721 ~ 724 - 2SD736 (B,C)
X725 ~ 728 - 2SB700 (B,C)



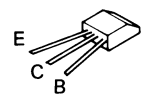
X801, 803 - 2SD330V (D,E)
X802 - 2SB514V (D,E)



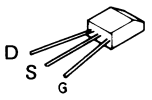
X711, 712 - 2SC1904 (B,V)
X709, 710 - 2SA899 (B,V)
X717, 718 - 2SD381 (L,M)
X719, 720 - 2SB536 (L,M)



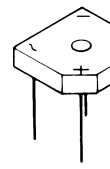
TLR102
D401 ~ 404



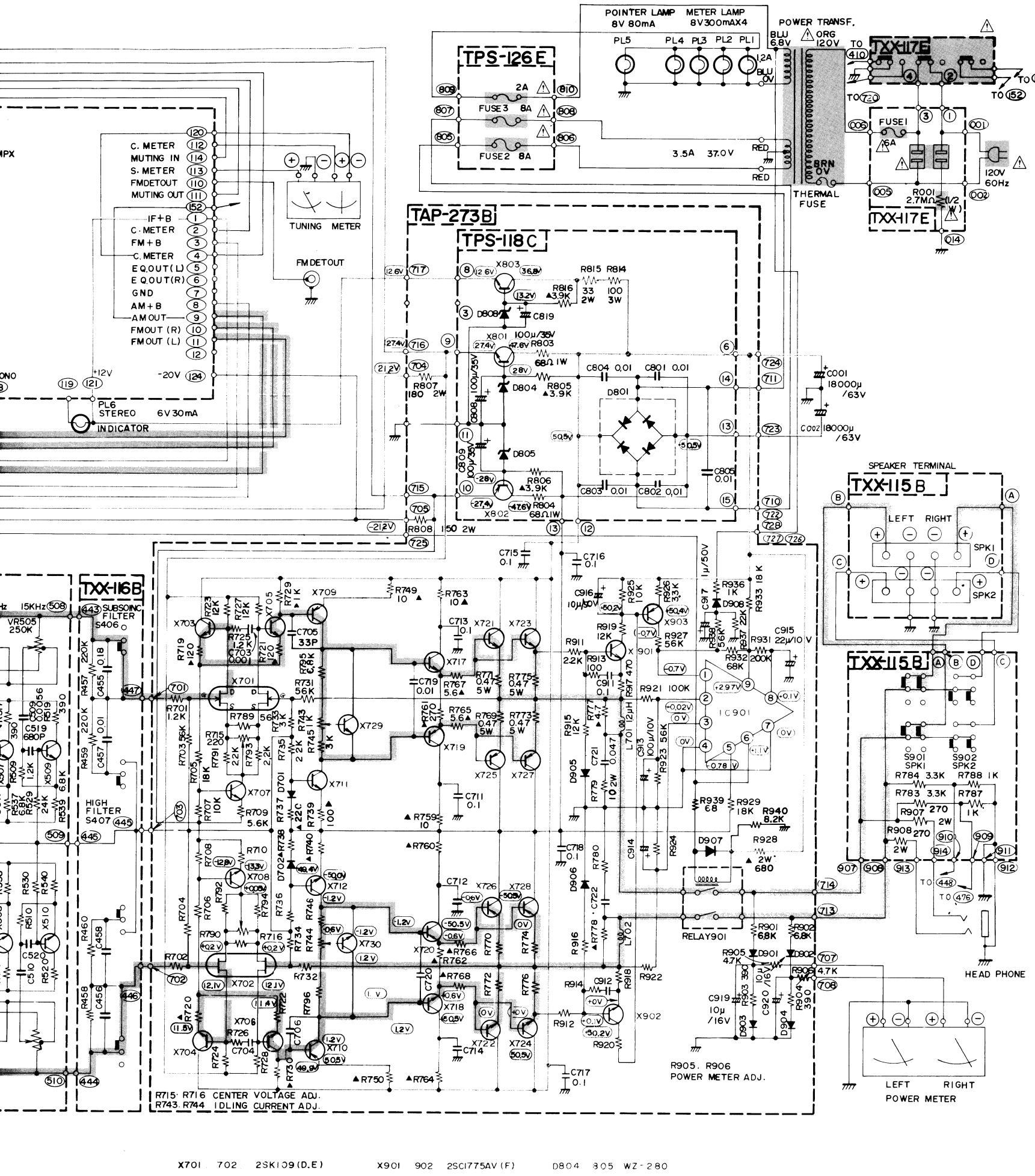
X102 - 2SC535 (C)
X103 - 2SC1342 (B)



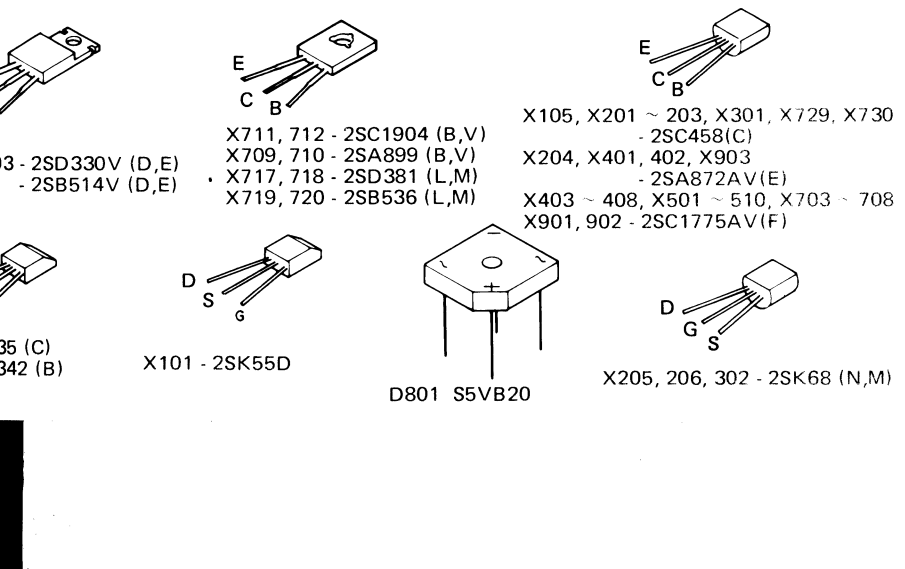
X101 - 2SK55D



D801 S5VB2



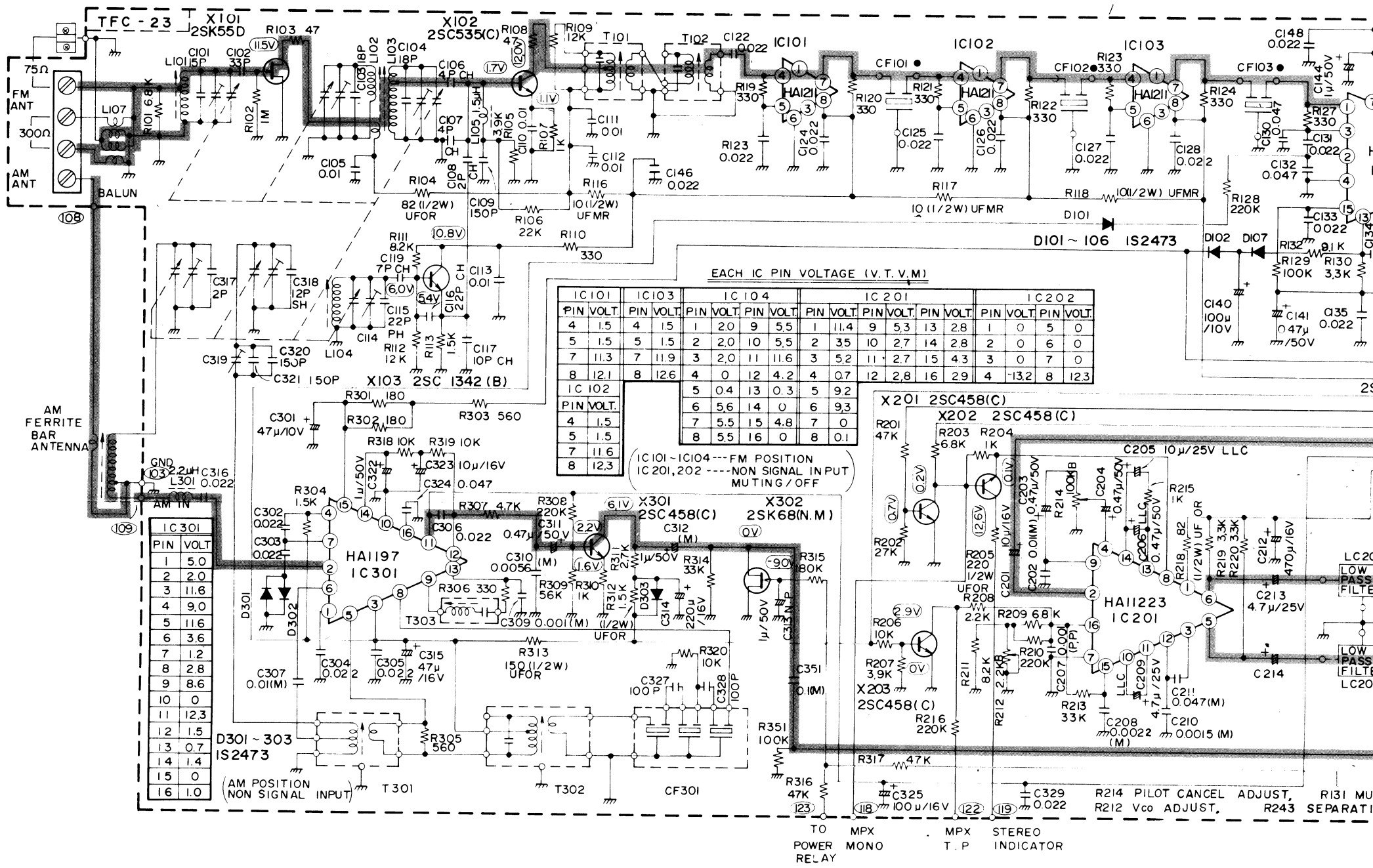
X701	702	2SK109(D,E)	X901	902	2SC1775AV(F)	D804	805 WZ-280
X703 ~ 708		2SC1775AV(F)	X903		2SA872AV(E)	D808	XZ-132
X709	710	2SA899(B·V)	IC901		TA7317P		
X711	712	2SC1904(B·V)	D701	D702	1S2473		
			D901 ~ 908		1S2473		
X717	718	2SD381(L,M)	X801		2SD330V(DE)		
X719	720	2SB536(L,M)	X802		2SB514V(DE)		
X721 ~ 724		2SD736 (B·C)	X803		2SD330V(DE)		
X725 ~ 728		2SB700 (B·C)	D801		S5VB20		
X729	730	2SC458 (C)					



Notes:

1. Parts in red indicate transistors or ICs.
2. ▒▒ indicates signal path.
3. —— indicates positive B power supply.
   Voltage values in ⬭ are negative.
4. —— indicates negative B power supply.
   Voltage values in ⬭ are positive.
5. When replacing the parts in the darkened area ▬ and those marked with ⚠ , be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

JR-S401
No. 2452



EACH IC PIN VOLTAGE (V.T.V.M)

IC101		IC103		IC104				IC201						IC202			
PIN	VOLT.	PIN	VOLT.	PIN	VOLT.	PIN	VOLT.	PIN	VOLT.	PIN	VOLT.	PIN	VOLT.	PIN	VOLT.	PIN	VOLT.
4	1.5	4	1.5	1	2.0	9	5.5	1	11.4	9	5.3	13	2.8	1	0	5	0
5	1.5	5	1.5	2	2.0	10	5.5	2	3.5	10	2.7	14	2.8	2	0	6	0
7	11.3	7	11.9	3	2.0	11	11.6	3	5.2	11	2.7	15	4.3	3	0	7	0
8	12.1	8	12.6	4	0	12	4.2	4	0.7	12	2.8	16	2.9	4	-13.2	8	12.3
IC 102				5	0.4	13	0.3	5	9.2								
PIN	VOLT.			6	5.6	14	0	6	9.3								
4	1.5			7	5.5	15	4.8	7	0								
5	1.5			8	5.5	16	0	8	0.1								
7	11.6																
8	12,3																

(IC101 ~ IC104 --- FM POSITION
IC201, 202 ---- NON SIGNAL IN PUT MUTING / OFF

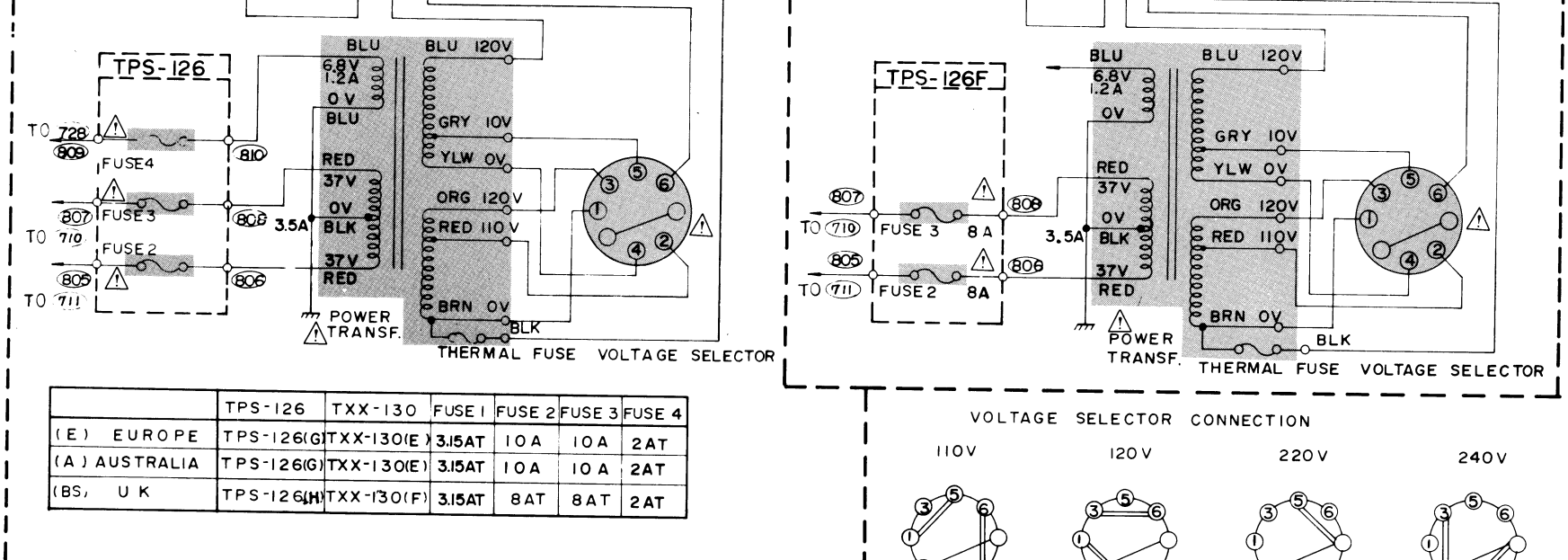
IC301	
PIN	VOLT
1	5.0
2	2.0
3	11.6
4	9.0
5	11.6
6	3.6
7	1.2
8	2.8
9	8.6
10	0
11	12.3
12	1.5
13	0.7
14	1.4
15	0
16	1.0

AC POWER SUPPLY BLOCK

(E, A, BS) [E] FOR EUROPE 220V 50Hz FM DE-EMPHASIS 50μSEC
[A] FOR AUSTRALIA 240V 50Hz FM DE-EMPHASIS 50μSEC
[BS] FOR UK 240V 50Hz FM DE-EMPHASIS 50μSEC

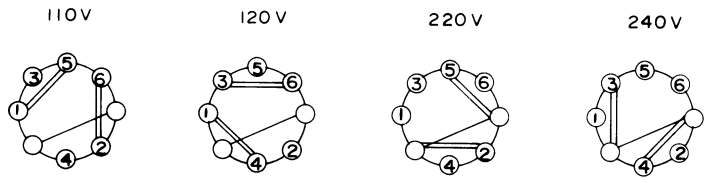
(U, P, F) [U] FOR OTHER COUNTRIES FM DE-EMPHASIS 75μSEC
[P] FOR PACEX FM DE-EMPHASIS 75μSEC
[F] FOR EUROPE (EXCEPT SEMKO SEV) FM DE-EMPHASIS 50μSEC

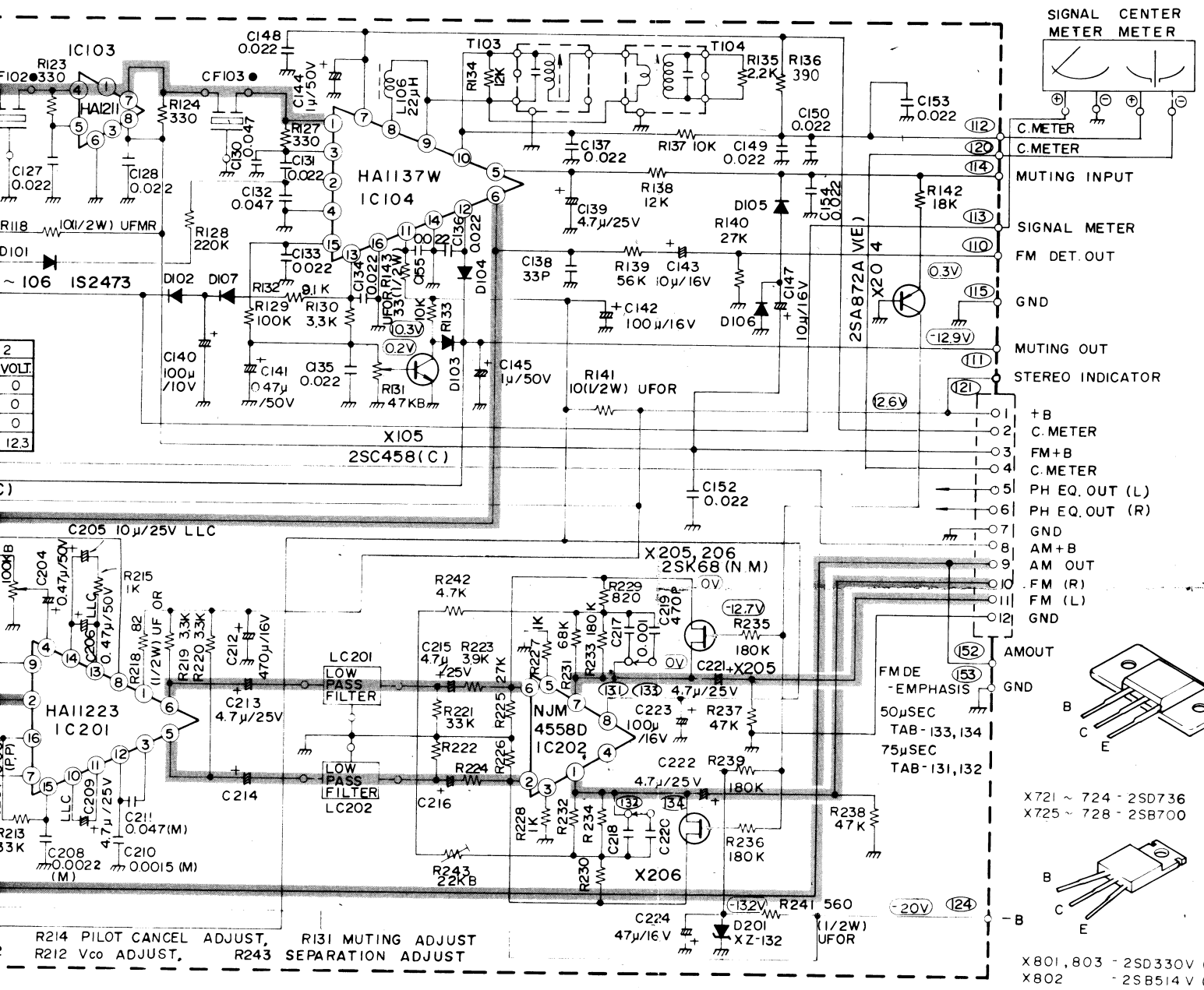
(J) FOR USA 120V
(C) FOR CANADA 120
FM DE-EMPHAS

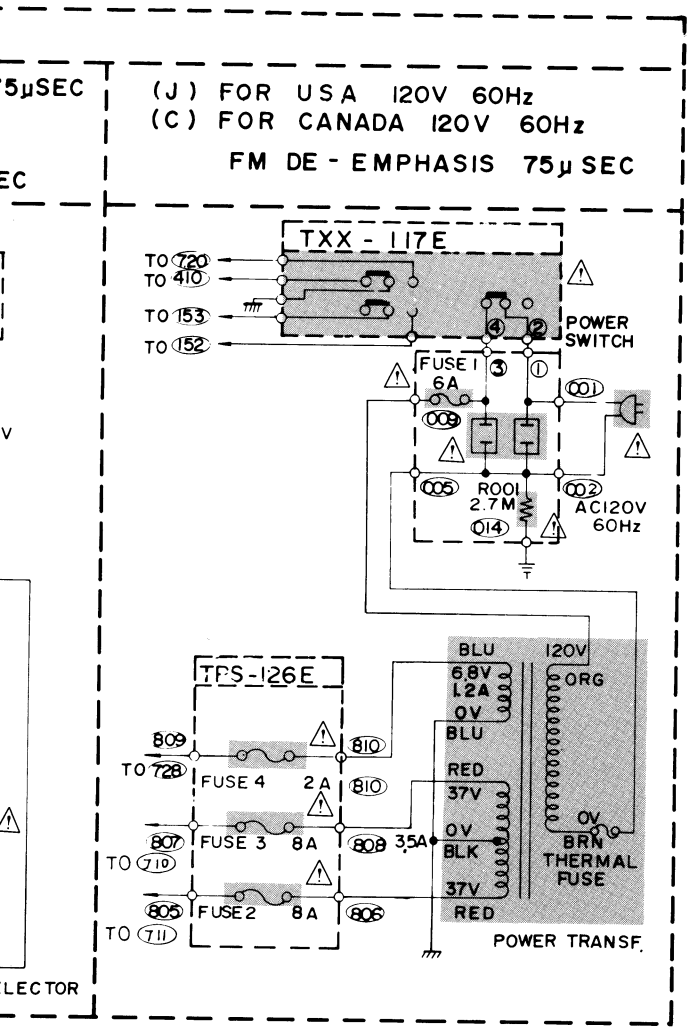


	TPS-126	TXX-130	FUSE 1	FUSE 2	FUSE 3	FUSE 4
(E) EUROPE	TPS-126(G)	TXX-130(E)	3.15AT	10A	10A	2AT
(A) AUSTRALIA	TPS-126(G)	TXX-130(E)	3.15AT	10A	10A	2AT
(BS) UK	TPS-126(H)	TXX-130(F)	3.15AT	8AT	8AT	2AT

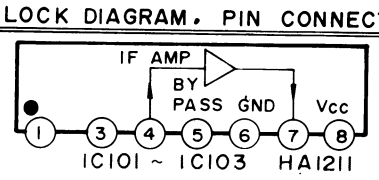
VOLTAGE SELECTOR CONNECTION

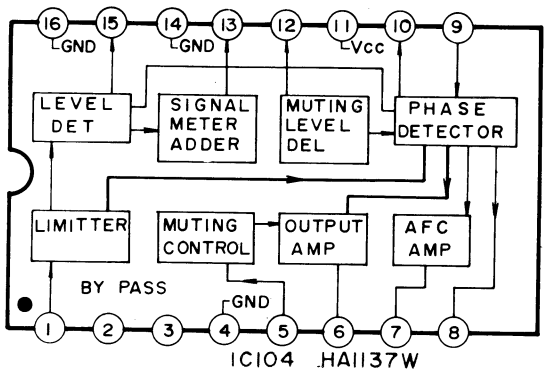


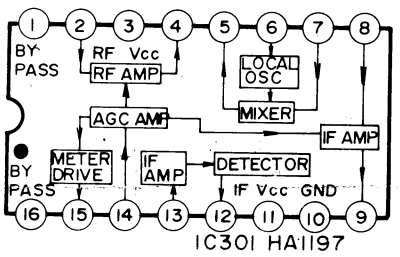


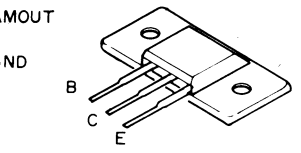


IC BLOCK DIAGRAM, PIN CONNECTION

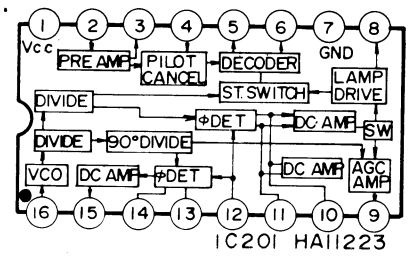




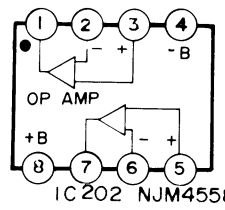


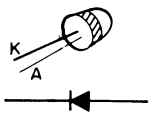


X721 ~ 724 - 2SD736 (B,C)
X725 ~ 728 - 2SB700 (B,C)

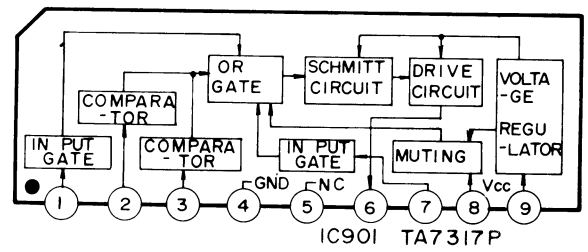


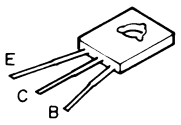
X801, 803 - 2SD330V (D,E)
X802 - 2SB514 V (D,E)



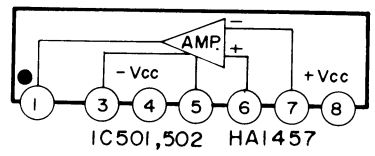


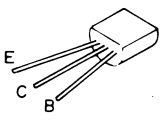
TLR102
D401 ~ 404



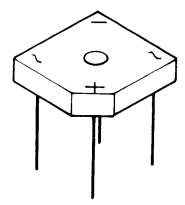


X711, 712, - 2SC1904(B,V)
X709, 710, - 2SA899(B,V)
X717, 718 - 2SD381(L,M)
X719, 720 - 2SB536(L,M)

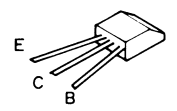




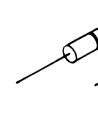
X105, X201 ~ 203, X301 X729 X730
- 2SC458(C)
X204, X401, 402, X903
- 2SA872AV(E)
X403 ~ 408, X501 ~ 510, X703 ~ 708
X901, 902 - 2SC1775AV(F)



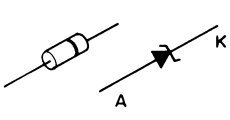
D801 S5VB20



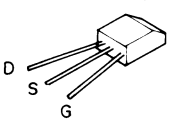
X102 - 2SC535 (C)
X103 - 2SC1342(B)



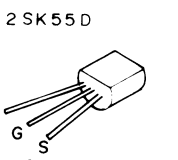
D101 ~ 107, D301 ~ 303
D701, 702 D901 ~ 908
1S2473
D703 ~ 706
1SS81



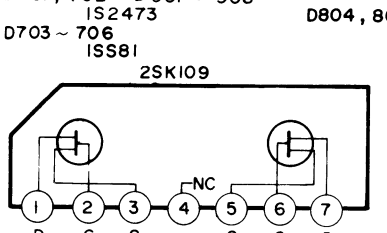
D201, D808 XZ-132
D804, 805 WZ-280



X101 - 2SK55D



X205, 206, 302 - 2SK68(N,M)



13. Parts List with Specified Numbers for Designated Areas

Page	Item No.	Description	U.S.A.	Canada	U.S. Military Market & Other Countries	Europe	Australia	U.K.
6		Power Transformer ⚠	E03077-29	E03077-29	E03077-29B	E03077-29B	E03077-29B	E03077-29BBS
25	9-(5)	AC Block P.C. Board Ass'y ⚠	TXX-117E	TXX-117E	TXX-117F	TXX-130E	TXX-130E	TXX-130FBS
26	9-(6)	DC Power Supply P.C. Board Ass'y ⚠	TPS-118C	TPS-118C	TPS-118C	TPS-118D	TPS-118D	TPS-118D
28	9-(7)	Fuse P.C. Board Ass'y ⚠	TPS-126E	TPS-126E	TPS-126F	TPS-126G	TPS-126G	TPS-126H
8		Power Cord ⚠	QMP1200-244	QMP1200-244	QMP1200-244	QMP4310-200 (SEV) QMP4220-200 (SEMKO)	QMP2490-200	QMP9020-004BS
8		Power Cord Stopper ⚠	QHS3876-162	QHS3876-162	QHS3876-162	QHS6374-252	QHS6374-162	QHS6374-162BS
25	9-(5)	Fuse Socket ⚠	–	–	QMG0201-003	QMG0301-003	QMG0301-003	QMG0301-003BS
		Voltage Selector ⚠	–	–	QSR0085-001	QSR0085-001	QSR0085-001	QSR0085-001BS
		Fuse Primary F-1 ⚠	QMF61U1-6R0 6 A	QMF61U1-6R0 6 A	QMF60R1-6R0 6 A	QMF51A2-3R15 3.15AT	QMF51A2-3R15 3.15AT	QMF51A2-3R15BS 3.15AT
		Secondary F-2, 3 ⚠	QMF61U1-8R0 8 A	QMF61U1-8R0 8 A	QMF60R1-8R0 8 A	QMF0003-100 10 AT	QMF0003-100 10 AT	QMF51A2-8R0BS 8 AT
		" F-4 ⚠	QMF61U1-2R0 2 A	QMF61U1-2R0 2 A	–	QMF51A2-2R0 2 AT	QMF51A2-2R0 2 AT	QMF51A2-2R0BS 2 AT

NOTE: ⚠ SAFETY PARTS